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Natural  
Resources  
Conservation  
Service

In cooperation with the  
Alaska Department of  
Natural Resources; City  
of Delta Junction;  
University of Alaska  
Fairbanks, Agricultural  
and Forestry  
Experiment Station;  
and the Salcha-Delta  
Soil and Water  
Conservation District

# Soil Survey of the Greater Delta Area, Alaska





# How To Use This Soil Survey

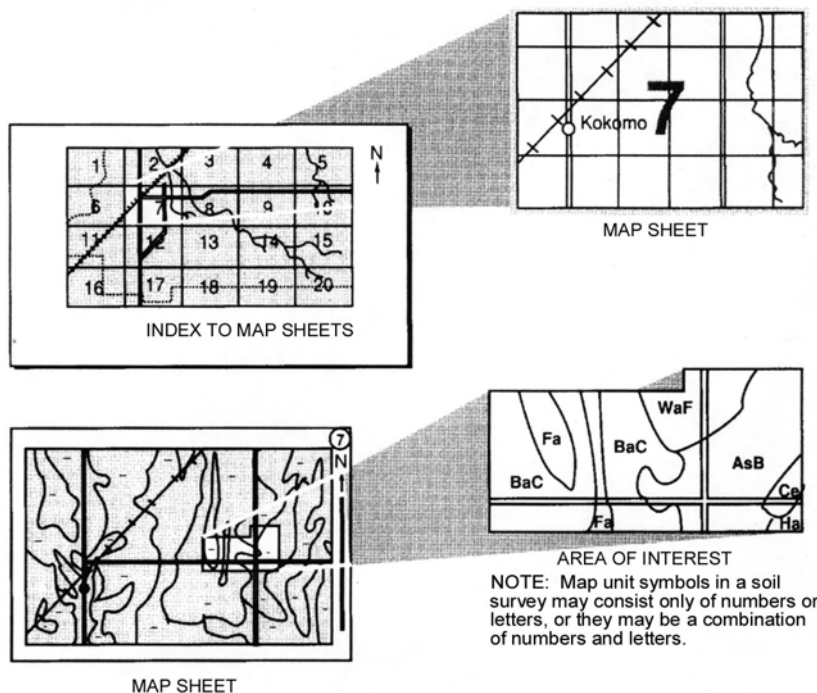
## Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



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This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural and Forestry Experiment Station, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 2007. Soil names and descriptions were approved in 2008. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2007. This survey was made cooperatively by the Natural Resources Conservation Service and the Alaska Department of Natural Resources; City of Delta Junction; University of Alaska Fairbanks, Agricultural and Forestry Experiment Station; and the Salcha-Delta Soil and Water Conservation District. This survey is part of the technical assistance furnished through the Salcha-Delta Soil and Water Conservation District.

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Cover: A barley field near Delta Junction, on Volkmar soils of the Interior Alaska Lowlands.

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# Foreword

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This soil survey contains information that can be used in land-planning programs in the Greater Delta Area, Alaska. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Government agencies, community officials, Alaska Native tribes, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

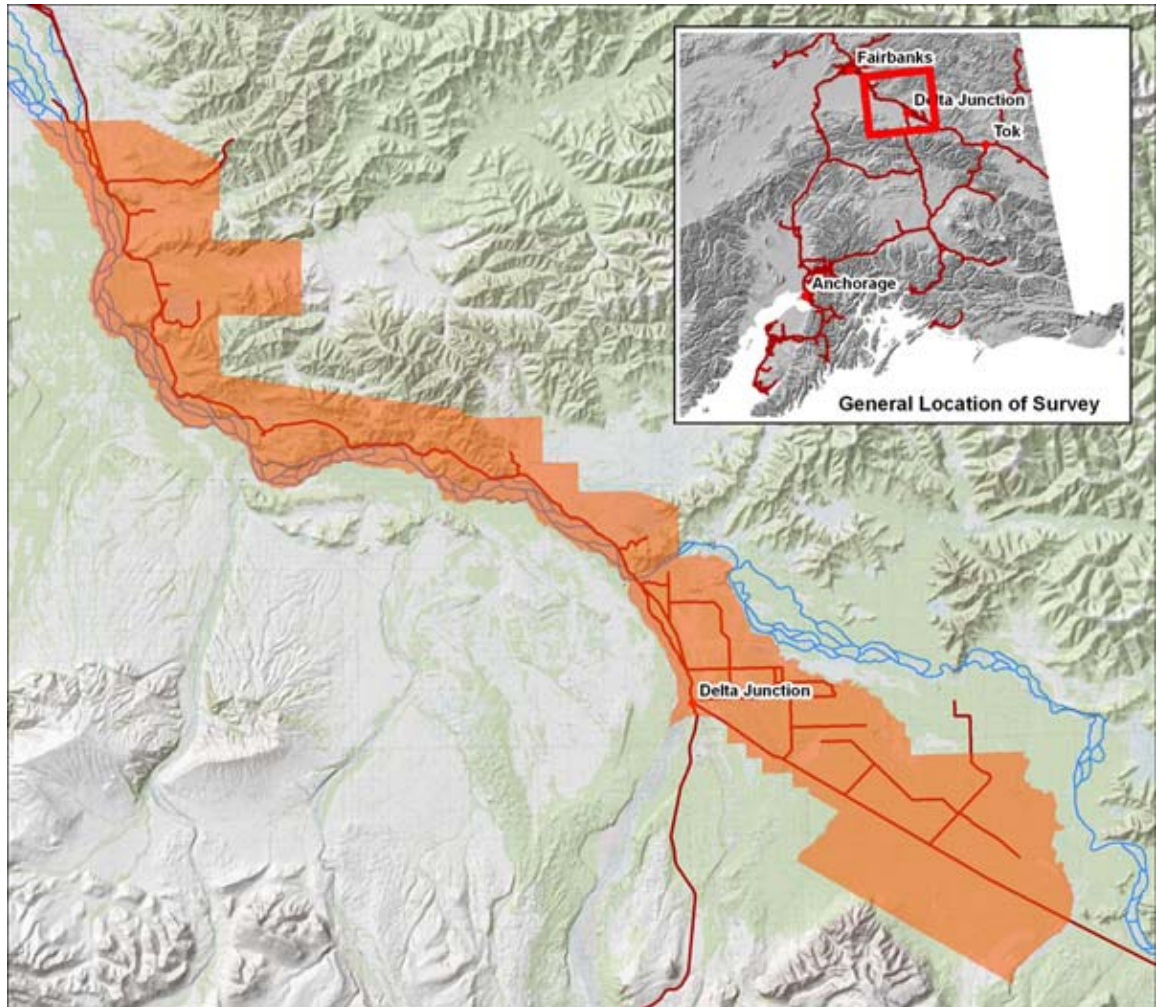
Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://soils.usda.gov/sqi/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://soils.usda.gov/contact/state\\_offices/](http://soils.usda.gov/contact/state_offices/)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock or to permafrost. Some are too unstable to be used as a foundation for buildings or roads. Wet soils are poorly suited to use for waste treatment systems. A high water table makes a soil poorly suited to basements or underground installations.

Many soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the Delta Junction office of the Natural Resources Conservation Service or Alaska Cooperative Extension.

Robert N. Jones, State Conservationist  
Natural Resources Conservation Service



**Figure 1.** Location of the Greater Delta soil survey area in Alaska.

# Soil Survey of the Greater Delta Area, Alaska

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By Trudy Pink, Natural Resources Conservation Service

Fieldwork by Trudy Pink, Chris Savastio, Dallas Glass, Stephanie Schmit, Rachel Tarpey, Donald Watson, Bryan Strong, Beatrice Haggard, Lyndsey Moritz, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service

In cooperation with the Alaska Department of Natural Resources; City of Delta Junction; University of Alaska Fairbanks, Agricultural and Forestry Experiment Station; and the Salcha-Delta Soil and Water Conservation District

## General Nature of the Survey Area

The Greater Delta Area lies approximately 90 miles southeast of Fairbanks, Alaska (Figure 1). The survey area is approximately 417,630 acres in size, includes the towns of Delta Junction and Salcha, and is bordered on the south by the Tanana River. The Richardson Highway runs the length of the survey area and provides access to Fairbanks to the north and Valdez and Anchorage to the south.

The survey area lies within three Major Land Resource Areas: 228—Interior Mountains, 229—Interior Alaska Lowlands, and 231—Interior Alaska Highlands.

## Physiography and Drainage

The northwestern part of the Greater Delta Area mostly occurs in the Interior Alaska Highlands MLRA and consists of rounded, forested hills and ridges. Most of the valley bottoms are narrow, but, at the transition to the Interior Lowlands MLRA, the alluvial plains along the Tanana and Salcha Rivers are broad and nearly level. Elevation in this part of the Greater Delta Area ranges from about 600 feet on the Tanana River bottom to almost 2,000 feet on the highest ridge tops.

Moving south and east, the survey area occupies the Interior Alaska Lowlands MLRA. Here glacial outwash plains, alluvial terraces, and floodplains dominate. These broad, nearly level landforms are interrupted by stabilized sand dunes and a few low moraines.

Extensive stands of aspen, paper birch, and white spruce grow on most of the well-drained sites. Dense stands of black spruce generally grow on sites where the drainage is impeded. Mosses, sedges, and low-growing shrubs dominate in areas having the poorest drainage.

The entire survey area is drained by the Tanana River and its tributaries. Streams that drain the unglaciated uplands are relatively clear. The major tributaries, however,

that flow from the Alaska Range to the south, as well as the Tanana River, are glacier fed and heavily laden with silt and sand. The floodplains and low terraces that border the major rivers and streams of the survey area consist mainly of silty and fine sandy alluvium overlying thick deposits of coarse rounded gravel and sand.

The Greater Delta Area is underlain by discontinuous permafrost (*Péwé et al. 1953*). It is generally at a depth of less than 30 inches in the thick silty sediment on alluvial bottoms in upland drainages, on north-facing slopes, and in depressions filled with organic materials. In these places the high permafrost table is preserved by a thick surface layer of moss or other vegetation that serves as insulating material. If this insulating organic surface material is removed or disturbed, whether through cultural practices such as agriculture or natural events such as wildfire, the permafrost table will recede and may no longer exist in the soil profile.

Soils in the uplands that are on south-facing slopes generally lack permafrost. On footslopes, however, large masses of ice may be buried in colluviated loess (*Péwé 1954*). If the insulating surface vegetative mat is removed or disturbed, these ice masses may melt and thermokarst form; characterized by steep-walled pits or extremely hummocky relief.

## Geology

The rounded hills and ridges in the northern and western parts of the Greater Delta Area are part of the unglaciated Interior Alaska Highlands. The bedrock is predominantly Precambrian Birch Creek schist, but a few masses of granite and quartz diorite are exposed (*Black 1958; Mertie 1937*). Most of these upland areas are covered by a mantle of silty micaceous loess derived chiefly from outwash plains south of the Tanana River (*Péwé 1955*). This mantle of loess ranges from a few inches to many feet in thickness on most of the hills and ridges. It generally is thinner in places farther away from the Tanana River. Much of the loess has eroded from the slopes and has been re-deposited on footslopes and in upland valleys.

The geology of the southern and eastern portions of the survey area, south of the Tanana River, contrasts sharply with the unglaciated northern part. This southern part occupies the Interior Alaska Lowlands MLRA. Glaciers from the Alaska Range extended into this part of the survey area during the Pleistocene. As the glaciers retreated, large deposits of coarse sandy and gravelly material were laid down by the glacial melt-water, and broad outwash plains were formed. These plains slope gradually northward to the Tanana River. Also included in this part of the survey area is the stony and gravelly material of the Delta moraine, just east of the community of Delta Junction. This moraine is characterized by a kettle and kame topography of low relief. Low stabilized sand dunes occur on the outwash plains, especially next to the floodplains of major streams. A large area of dunes borders the Shaw Creek Flats north of the mouth of the Delta River.

## Agriculture

Agriculture is a significant land use in the Greater Delta Area. The first significant demands for farm products came because of an increase in the number of gold miners and prospectors who migrated to the area at the turn of the 20<sup>th</sup> century and as a result of railroad construction in the early 1920s. During this period of time, most of the farming in the Delta Junction area was done along the Richardson Trail. The principal crops grown were hay and grain for horses and vegetables that were grown and sold to roadhouse operators along the Richardson Trail.



Farm settlements were established in the area following completion of military bases and the Alaska Highway during World War II. During the postwar period a number of settlers moved to the area to homestead. Most of these farm homesteads were near Clearwater Lake east of Delta Junction. Because of the high cost of clearing and improving the land and the long time required to prepare the land for crops, most of the settlers had to supplement their farm income with outside employment. Many eventually abandoned their homesteads and moved elsewhere to seek employment.

Most of the farms in the survey area are less than 200 acres and are located in what is referred to as the Clearwater and Tanana Loop areas. Small farms are also located along the Richardson Highway to Salcha. Several farms are also located in Salcha on Johnson and Canaday Roads.

Principal crops in the area include brome and timothy hay, barley, oats, potatoes, and cold-hardy vegetables. Livestock farms also have permanent pastures. Livestock raised in the area include beef and dairy cattle, horses, sheep, hogs, laying hens, broilers, and other poultry. A small number of farms in the area are now raising exotic livestock such as bison, elk, and yak. Many of the smaller farms are of a subsistence nature, meaning the family raises food primarily for their own consumption and any excess may be sold. Subsistence farms typically raise only enough livestock to provide the family for one season. Large gardens with a variety of produce are quite common. A few farms in the area still use draft horses as their primary machinery.

Many farmers in the area have begun to develop value-added products as a marketing tool. Products include exotic livestock hunts, salves, jams, jellies, honey, and oils. Farmers bring their flowers and produce to the Farmer's Markets in Delta Junction and Fairbanks. In addition to these products, Delta Junction is also home to the only USDA-inspected slaughtering/packing facility in the Interior of Alaska and a feed processing plant.

Agriculture in the Greater Delta Area is not without its challenges. While temperature extremes may be an obvious challenge, there are others that are not so visible. Inputs such as fertilizer and pesticides cost considerably more due to the expense associated with freight. The same holds true for items such as fence posts, machinery parts, and other everyday items. The movement of livestock through Canada and the importation of livestock from Canada are strictly regulated. It is oftentimes difficult to obtain new breeding stock and thus benefit from the improved genetics. Transportation is another hurdle to the agricultural industry. All products must be shipped in or out by truck.

## Climate

The Greater Delta Area has a continental climate, typical of the Interior Basin of Alaska. Summer temperatures are mild, with maximums generally in the 65 to 80 degree range, but reaching the 90 degree level on rare occasions. There are 18 to 21 hours of sunshine daily. A number of thunderstorms occur every summer. The average freeze-free period is about 114 days, extending from mid-May to early September. Winters are cold, generally with four months of minimum temperatures below zero. The days are short, the nights long. The transition periods between summer and winter and vice versa are rapid, with the daily change almost perceptible.

The annual precipitation of less than 12 inches is low for crop growth. However, well over half occurs during the summer, at the time most needed. Winter snowfall is light and generally stays on the ground throughout the winter.

Surface winds follow a normal pattern of strongest speeds in winter, lightest in summer. The direction, east-southeast, follows the orientation of the Tanana Valley from early fall to early spring, and follows the orientation of the Delta River, southwest,

during the months of May through July. Wind averages and extremes are high when compared to other interior Alaska locations. With strong pressure gradients both the Tanana and Delta River valleys experience a venturi effect accentuating the already high speeds.

Table 1 provides temperature and precipitation data compiled from records kept at Big Delta FAA (Fort Greeley) for the period 1971 to 2000.

In winter (November through March), the average temperature is 4.06 degrees F and the average daily minimum temperature is -4.08 degrees F. The lowest temperature on record is -59 degrees F. In summer, the average temperature is 57.8 degrees F and the average daily maximum temperature is 65.1 degrees F. The highest recorded temperature is 90 degrees F.

The total annual precipitation at Big Delta is 12 inches. Of this, 9 inches, or 77 percent, usually falls in May through September. The growing season for most plants falls within this period. In two years out of ten, the rainfall in May through September is less than 5 inches. During many years, a lack of sufficient precipitation in May and June results in a soil moisture deficit during the period of plant emergence.

The average seasonal snowfall is 48 inches. Snow covers the ground from October to April.

Table 2 shows probability data for the occurrence of freezing temperatures in spring and in fall for Big Delta FAA area for the period 1961 to 1990.

The climate data presented in these tables are considered representative for much of the Greater Delta Area.

## How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. To characterize and map the soils, soil scientists dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The soil scientists also observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of native plants; and the kinds of geologic materials.

Before beginning the fieldwork, relevant information on the climate, geology, geomorphology, hydrology, and vegetation of the survey area was assembled. Aerial photography of the survey area was acquired and prepared for field use and mapping. Field work for the soil survey was conducted between 2005 and 2007.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.



## Detailed Soil Map Units

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The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called non-contrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Map units that consist of one major component are called *consociations*. 29TC01—Tanacross peat is an example.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. 29NE03—Nenana-Donnelly complex, 0 to 3 percent slopes is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. 29TC03—Tanacross, occasionally flooded-Histels association is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. 31BR08—Brigadier and Manchu silt loams, 3 to 15 percent slopes is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. 29PT01—Pits, gravel is an example.

Table 3 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

## **28BU01—Butchlake-Southpaw-Salchaket family complex, 1 to 50 percent slopes**

*Elevation:* 1,329 to 1,985 feet

*Mean annual precipitation:* 12 to 15 inches

*Frost-free period:* 50 to 104 days

### ***28-Butchlake and similar soils***

*Extent:* 10 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, shoulders, summits, footslopes

*Slope shape:* linear

*Slope range:* 20 to 50 percent

*Parent material:* loess over till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 3.9 inches

*Vegetation:* paper birch, spruce, and aspen forest

*Representative Profile:*

Oi—0 to 3 inches; slightly decomposed plant material, high saturated hydraulic conductivity

A—3 to 4 inches; mucky silt loam, moderately high saturated hydraulic conductivity

Bw1/2Bw2—4 to 9 inches; extremely gravelly coarse sandy loam, cobbly sandy loam, high saturated hydraulic conductivity  
 2BC—9 to 72 inches; very cobbly sandy loam, high saturated hydraulic conductivity

### ***28-Southpaw and similar soils***

*Extent:* 10 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* summits, shoulders, backslopes, footslopes

*Slope shape:* linear, concave, convex

*Slope range:* 1 to 30 percent

*Parent material:* loess over glacial till

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 7.2 inches

*Vegetation:* paper birch, spruce, and aspen forest

*Representative Profile:*

Oi—0 to 4 inches; brown with light gray mottles slightly decomposed plant material, high saturated hydraulic conductivity

Bw1—4 to 13 inches; brown with light gray mottles silt loam, moderately high saturated hydraulic conductivity

Bw2—13 to 22 inches; brown with light gray mottles fine sandy loam, high saturated hydraulic conductivity

2BC—22 to 36 inches; brown with light gray mottles gravelly sandy loam, high saturated hydraulic conductivity

2C—36 to 72 inches; brown with light gray mottles very gravelly sandy loam, high saturated hydraulic conductivity

### ***28-Salchaket family and similar soils***

*Extent:* 5 to 20 percent of the map unit

*Landform:* alluvial fans

*Slope shape:* concave

*Slope range:* 0 to 5 percent

*Parent material:* loess over alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* occasional

*Available water capacity (approximate):* 7.5 inches

*Representative Profile:*

Oi—0 to 1 inch; slightly decomposed plant material, high saturated hydraulic conductivity

C1—1 to 14 inches; sand, very high saturated hydraulic conductivity

Oab—14 to 15 inches; highly decomposed plant material, moderately high saturated hydraulic conductivity

C2—15 to 72 inches; stratified gravelly sand to fine sandy loam, high saturated hydraulic conductivity

### ***Minor Components***

28-Terric Hemistels and similar soils: 0 to 15 percent of the map unit

### **28SP01—Southpaw-Butchlake complex, 3 to 12 percent slopes**

*Elevation:* 1,148 to 1,394 feet

*Mean annual precipitation:* 12 to 15 inches

*Frost-free period:* 50 to 104 days

#### ***28-Southpaw and similar soils***

*Extent:* 35 to 65 percent of the map unit

*Landform:* hills

*Position on slope:* summits, shoulders, backslopes, footslopes

*Slope shape:* linear, concave, convex

*Slope range:* 3 to 12 percent

*Parent material:* loess over glacial till

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 7.2 inches

*Vegetation:* paper birch, spruce, and aspen forest

*Representative Profile:*

Oi—0 to 4 inches; brown with light gray mottles slightly decomposed plant material, high saturated hydraulic conductivity

Bw1—4 to 13 inches; brown with light gray mottles silt loam, moderately high saturated hydraulic conductivity

Bw2—13 to 22 inches; brown with light gray mottles fine sandy loam, high saturated hydraulic conductivity

2BC—22 to 36 inches; brown with light gray mottles gravelly sandy loam, high saturated hydraulic conductivity

2C—36 to 72 inches; brown with light gray mottles very gravelly sandy loam, high saturated hydraulic conductivity

#### ***28-Butchlake and similar soils***

*Extent:* 30 to 65 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, shoulders, summits, footslopes

*Slope shape:* linear

*Slope range:* 3 to 12 percent

*Parent material:* loess over till

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none



*Available water capacity (approximate):* 3.9 inches

*Vegetation:* paper birch, spruce, and aspen forest

*Representative Profile:*

Oi—0 to 3 inches; slightly decomposed plant material, high saturated hydraulic conductivity

A—3 to 4 inches; mucky silt loam, moderately high saturated hydraulic conductivity

Bw1/2Bw2—4 to 9 inches; extremely gravelly coarse sandy loam, cobbly sandy loam, high saturated hydraulic conductivity

2BC—9 to 72 inches; very cobbly sandy loam, high saturated hydraulic conductivity

### ***Minor Components***

28-Audrey and similar soils: 5 to 15 percent of the map unit

28-Terric Hemistels and similar soils: 0 to 10 percent of the map unit

28-Water: 0 to 5 percent of the map unit

## **28SP02—Southpaw-Butchlake complex, 5 to 20 percent slopes**

*Elevation:* 1,099 to 1,378 feet

*Mean annual precipitation:* 12 to 15 inches

*Frost-free period:* 75 to 104 days

### ***28-Southpaw and similar soils***

*Extent:* 35 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* summits, shoulders, backslopes, footslopes

*Slope shape:* linear, concave, convex

*Slope range:* 5 to 20 percent

*Parent material:* loess over glacial till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 7.2 inches

*Vegetation:* paper birch, spruce, and aspen forest

*Representative Profile:*

Oi—0 to 4 inches; brown with light gray mottles slightly decomposed plant material, high saturated hydraulic conductivity

Bw1—4 to 13 inches; brown with light gray mottles silt loam, moderately high saturated hydraulic conductivity

Bw2—13 to 22 inches; brown with light gray mottles fine sandy loam, high saturated hydraulic conductivity

2BC—22 to 36 inches; brown with light gray mottles gravelly sandy loam, high saturated hydraulic conductivity

2C—36 to 72 inches; brown with light gray mottles very gravelly sandy loam, high saturated hydraulic conductivity

### ***28-Butchlake and similar soils***

*Extent:* 30 to 55 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, shoulders, summits, footslopes

*Slope shape:* linear

*Slope range:* 5 to 20 percent

*Parent material:* loess over till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 3.9 inches

*Vegetation:* paper birch, spruce, and aspen forest

*Representative Profile:*

Oi—0 to 3 inches; slightly decomposed plant material, high saturated hydraulic conductivity

A—3 to 4 inches; mucky silt loam, moderately high saturated hydraulic conductivity

Bw1/2Bw2—4 to 9 inches; extremely gravelly coarse sandy loam, cobbly sandy loam, high saturated hydraulic conductivity

2BC—9 to 72 inches; very cobbly sandy loam, high saturated hydraulic conductivity

### ***Minor Components***

28-Audrey and similar soils: 5 to 15 percent of the map unit

28-Typic Aquiturbels and similar soils: 0 to 10 percent of the map unit

## **28TE01—Terric Hemistels-Typic Aquiturbels-Water complex, 0 to 3 percent slopes**

*Elevation:* 1,309 to 2,018 feet

*Mean annual precipitation:* 12 to 15 inches

*Frost-free period:* 50 to 104 days

### ***28-Terric Hemistels and similar soils***

*Extent:* 30 to 85 percent of the map unit

*Landform:* depressions on plains

*Slope shape:* concave

*Slope range:* 0 to 1 percent

*Parent material:* partially decomposed organic material over loess over permanently frozen loess

*Depth to permafrost:* 14 to 30 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 10.1 inches

*Vegetation:* sedges, cottonsedge, low shrubs, and moss

*Representative Profile:*

Oe—0 to 20 inches; mucky peat, moderately high saturated hydraulic conductivity

A/O—20 to 24 inches; mucky silt loam, moderately high saturated hydraulic conductivity

Bjggf—24 to 72 inches; permanently frozen silt loam, very low saturated hydraulic conductivity

### ***28-Typic Aquiturbels and similar soils***

*Extent:* 10 to 30 percent of the map unit

*Landform:* depressions on plains

*Slope shape:* linear, concave, convex

*Slope range:* 0 to 3 percent

*Parent material:* loess over till

*Depth to permafrost:* 14 to 31 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 5.1 inches

*Vegetation:* open black spruce forest with low shrubs and moss

*Representative Profile:*

Oe—0 to 7 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity

Bg—7 to 15 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bjggf—15 to 33 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

Bgf1—33 to 41 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

2Bgf2—41 to 72 inches; permanently frozen gravelly very fine sandy loam, very low saturated hydraulic conductivity

### ***28-Water***

*Extent:* 0 to 30 percent of the map unit

*Landform:* lakes

### ***Minor Components***

28-Audrey and similar soils: 0 to 10 percent of the map unit

## **29AE01—Aquic Haplocryepts-Typic Cryaquepts complex**

*Elevation:* 499 to 1,201 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### ***29-Aquic Haplocryepts and similar soils***

*Extent:* 45 to 75 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* somewhat poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—48 inches

*Ponding:* none

*Available water capacity (approximate):* 5.1 inches

*Representative Profile:*

A—0 to 2 inches; mucky silt loam, moderately high saturated hydraulic conductivity

Bw—2 to 18 inches; stratified fine sand to silt loam, moderately high saturated hydraulic conductivity

2C—18 to 72 inches; very gravelly sand, high saturated hydraulic conductivity

### ***29-Typic Cryaquepts and similar soils***

*Extent:* 25 to 50 percent of the map unit

*Landform:* depressions on flood plains

*Slope shape:* concave

*Slope range:* 0 to 3 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—18 inches

*Ponding:* none

*Available water capacity (approximate):* 16.5 inches

*Representative Profile:*

Bg—0 to 5 inches; silt loam, moderately high saturated hydraulic conductivity

Bw/Bg—5 to 60 inches; silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

29-Aquic Cryofluvents and similar soils: 0 to 15 percent of the map unit

29-Salchaket and similar soils: 0 to 15 percent of the map unit

## **29CH01—Chena very fine sandy loam**

*Elevation:* 722 to 1,197 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### ***29-Chena and similar soils***

*Extent:* 80 to 95 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* very low

*Drainage class:* excessively drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 3.5 inches

*Vegetation:* white spruce and balsam poplar forest

*Representative Profile:*

Oi—0 to 4 inches; grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

C1—4 to 9 inches; olive brown stratified fine sand to silt loam, high saturated hydraulic conductivity

2C2—9 to 72 inches; very dark gray very gravelly sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Jarvis and similar soils: 0 to 10 percent of the map unit

29-Noonku and similar soils: 0 to 10 percent of the map unit

## **29EL01—Eielson-Piledriver, occasionally flooded, complex**

*Elevation:* 558 to 1,050 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### ***29-Eielson and similar soils***

*Extent:* 50 to 70 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—0 to 47 inches; June-Sept.—47 inches

*Ponding:* frequent

*Available water capacity (approximate):* 12.3 inches

*Vegetation:* white spruce and balsam poplar forest

*Representative Profile:*

Oi—0 to 2 inches; olive brown and dark gray slightly decomposed plant material, high saturated hydraulic conductivity

C1—2 to 49 inches; dark grayish brown very fine sandy loam, moderately high saturated hydraulic conductivity

C2—49 to 71 inches; very dark brown stratified silt loam to fine sand, moderately high saturated hydraulic conductivity

2C3—71 to 72 inches; olive brown and dark gray very gravelly sand, high saturated hydraulic conductivity

### ***29-Piledriver, occasionally flooded, and similar soils***

*Extent:* 25 to 40 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* somewhat poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—0 to 47 inches; June-Sept.—47 inches

*Ponding:* frequent

*Available water capacity (approximate):* 7.3 inches

*Vegetation:* white spruce and balsam poplar forest

*Representative Profile:*

Oi—0 to 3 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity

C1—3 to 15 inches; grayish brown very fine sandy loam, moderately high saturated hydraulic conductivity

C2—15 to 33 inches; dark olive brown stratified sand to fine sand to very fine sandy loam, moderately high saturated hydraulic conductivity

2C3—33 to 72 inches; light olive brown and grayish brown very gravelly sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Fubar, occasionally flooded, and similar soils: 0 to 5 percent of the map unit

29-Noonku and similar soils: 0 to 5 percent of the map unit

29-Riverwash: 0 to 5 percent of the map unit

### **29EL02—Eielson, rarely flooded-Tanana complex**

*Elevation:* 722 to 869 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### ***29-Eielson, rarely flooded, and similar soils***

*Extent:* 30 to 60 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* rare

*Depth to high water table (approximate):* April-May—0 to 47 inches; June-Sept.—47 inches

*Ponding:* frequent

*Available water capacity (approximate):* 12.3 inches

*Vegetation:* white spruce and balsam poplar forest

*Representative Profile:*

- Oi—0 to 2 inches; olive brown and dark gray slightly decomposed plant material, high saturated hydraulic conductivity
- C1—2 to 49 inches; dark grayish brown very fine sandy loam, moderately high saturated hydraulic conductivity
- C2—49 to 71 inches; very dark brown stratified silt loam to fine sand, moderately high saturated hydraulic conductivity
- 2C3—71 to 72 inches; olive brown and dark gray very gravelly sand, high saturated hydraulic conductivity

### **29-Tanana and similar soils**

*Extent:* 20 to 50 percent of the map unit

*Landform:* flood plains, terraces

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* alluvium

*Depth to permafrost:* 16 to 47 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—6 to 12 inches

*Ponding:* frequent

*Available water capacity (approximate):* 5.2 inches

*Vegetation:* black spruce forest

*Representative Profile:*

- Oi—0 to 3 inches; dark grayish brown slightly decomposed plant material, high saturated hydraulic conductivity
- A—3 to 6 inches; very dark grayish brown mucky silt loam, moderately high saturated hydraulic conductivity
- Bjig—6 to 25 inches; very dark brown very fine sandy loam, moderately high saturated hydraulic conductivity
- Cjjgf—25 to 72 inches; dark grayish brown permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### **Minor Components**

29-Liscum and similar soils: 0 to 7 percent of the map unit

29-Noonku and similar soils: 0 to 10 percent of the map unit

29-Tanacross and similar soils: 0 to 7 percent of the map unit

## **29FU01—Fubar-Piledriver complex, occasionally flooded**

*Elevation:* 656 to 1,017 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### **29-Fubar, occasionally flooded, and similar soils**

*Extent:* 40 to 60 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-Sept.—54 inches

*Ponding:* none

*Available water capacity (approximate):* 3.4 inches

*Vegetation:* white spruce, balsam poplar, and paper birch forest

*Representative Profile:*

Oi—0 to 2 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity

C1—2 to 10 inches; dark gray stratified fine sand to silt loam, moderately high saturated hydraulic conductivity

2C2—10 to 72 inches; dark grayish brown very gravelly coarse sand, high saturated hydraulic conductivity

### ***29-Piledriver, occasionally flooded, and similar soils***

*Extent:* 30 to 50 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* somewhat poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—0 to 47 inches; June-Sept.—47 inches

*Ponding:* frequent

*Available water capacity (approximate):* 7.3 inches

*Vegetation:* white spruce and balsam poplar forest

*Representative Profile:*

Oi—0 to 3 inches; grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

C1—3 to 15 inches; light olive brown and grayish brown very fine sandy loam, moderately high saturated hydraulic conductivity

C2—15 to 33 inches; dark olive brown stratified sand to fine sand to very fine sandy loam, moderately high saturated hydraulic conductivity

2C3—33 to 72 inches; dark brown very gravelly sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Eielson and similar soils: 0 to 5 percent of the map unit

29-Noonku and similar soils: 0 to 5 percent of the map unit

29-Riverwash: 0 to 5 percent of the map unit



**29GE01—Gerstle-Moosehead complex, 0 to 3 percent slopes**

*Elevation:* 1,017 to 1,378 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

**29-Gerstle and similar soils**

*Extent:* 60 to 70 percent of the map unit

*Landform:* stream terraces

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* frequent

*Available water capacity (approximate):* 8 inches

*Vegetation:* black and white spruce, paper birch, and aspen forest

*Representative Profile:*

Oi—0 to 4 inches; brown and dark grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—4 to 10 inches; dark brown very fine sandy loam, high saturated hydraulic conductivity

Bw—10 to 20 inches; black very fine sandy loam, high saturated hydraulic conductivity

BC—20 to 30 inches; brown and dark grayish brown stratified loamy fine sand to silt loam, high saturated hydraulic conductivity

C—30 to 51 inches; brown and dark grayish brown stratified sand to fine sandy loam, high saturated hydraulic conductivity

2C—51 to 72 inches; brown and dark grayish brown sand, high saturated hydraulic conductivity

**29-Moosehead and similar soils**

*Extent:* 25 to 35 percent of the map unit

*Landform:* stream terraces

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* loess over sandy and silty alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* frequent

*Available water capacity (approximate):* 5.6 inches

*Vegetation:* paper birch, spruce, and aspen forest

*Representative Profile:*

- Oi—0 to 5 inches; slightly decomposed plant material, high saturated hydraulic conductivity
- A—5 to 7 inches; silt loam, moderately high saturated hydraulic conductivity
- Bw—7 to 20 inches; very fine sandy loam, high saturated hydraulic conductivity
- BC—20 to 26 inches; stratified fine sandy loam to very fine sandy loam, high saturated hydraulic conductivity
- 2C—26 to 72 inches; gravelly sand, high saturated hydraulic conductivity

### ***Minor Components***

- 29-Tanana and similar soils: 0 to 10 percent of the map unit
- 29-Jarvis and similar soils: 0 to 10 percent of the map unit

## **29GE02—Gerstle-Tanana complex**

- Elevation:* 1,165 to 1,493 feet
- Mean annual precipitation:* 10 to 14 inches
- Frost-free period:* 90 to 135 days

### ***29-Gerstle and similar soils***

- Extent:* 40 to 60 percent of the map unit
- Landform:* alluvial fans
- Slope shape:* concave
- Slope range:* 0 to 3 percent
- Parent material:* alluvium
- Hazard of erosion (organic mat removed):* by water—slight; by wind—severe
- Runoff:* negligible
- Drainage class:* well drained
- Flooding:* none
- Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches
- Ponding:* frequent
- Available water capacity (approximate):* 8 inches
- Vegetation:* black and white spruce, paper birch, and aspen forest
- Representative Profile:*
  - Oi—0 to 4 inches; brown and dark grayish brown slightly decomposed plant material, high saturated hydraulic conductivity
  - A—4 to 10 inches; dark brown very fine sandy loam, high saturated hydraulic conductivity
  - Bw—10 to 20 inches; black very fine sandy loam, high saturated hydraulic conductivity
  - BC—20 to 30 inches; brown and dark grayish brown stratified loamy fine sand to silt loam, high saturated hydraulic conductivity
  - C—30 to 51 inches; brown and dark grayish brown stratified sand to fine sandy loam, high saturated hydraulic conductivity
  - 2C—51 to 72 inches; brown and dark grayish brown sand, high saturated hydraulic conductivity

### ***29-Tanana and similar soils***

- Extent:* 30 to 60 percent of the map unit
- Landform:* flood plains on alluvial fans

*Slope shape:* concave

*Slope range:* 0 to 2 percent

*Parent material:* alluvium

*Depth to permafrost:* 16 to 47 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—6 to 12 inches

*Ponding:* frequent

*Available water capacity (approximate):* 5.2 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 3 inches; dark grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—3 to 6 inches; very dark grayish brown mucky silt loam, moderately high saturated hydraulic conductivity

Bjig—6 to 25 inches; very dark brown very fine sandy loam, moderately high saturated hydraulic conductivity

Cjjgf—25 to 72 inches; dark grayish brown permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### ***Minor Components***

29-Salchaket and similar soils: 0 to 10 percent of the map unit

29-Tanacross and similar soils: 0 to 10 percent of the map unit

## **29GE04—Gerstle-Tanacross families complex, 0 to 4 percent slopes**

*Elevation:* 1,280 to 1,640 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### ***29-Gerstle family and similar soils***

*Extent:* 35 to 60 percent of the map unit

*Landform:* flood plains on alluvial fans

*Slope shape:* concave, linear

*Slope range:* 0 to 2 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* frequent

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 11.9 inches

*Representative Profile:*

Oe, Oa—0 to 3 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—3 to 7 inches; silt loam, moderately high saturated hydraulic conductivity  
 Bw, BC—7 to 20 inches; very fine sandy loam, moderately high saturated hydraulic conductivity  
 C—20 to 57 inches; silt loam, high saturated hydraulic conductivity  
 2C—57 to 72 inches; very gravelly coarse sand, high saturated hydraulic conductivity

### ***29-Tanacross family and similar soils***

*Extent:* 10 to 35 percent of the map unit  
*Landform:* fan terraces on alluvial fans  
*Slope shape:* linear  
*Slope range:* 0 to 4 percent  
*Parent material:* organic material over alluvium  
*Depth to permafrost:* 20 to 28 inches  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* very high  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—0 to more than 72 inches  
*Ponding:* none  
*Available water capacity (approximate):* 6 inches  
*Representative Profile:*  
 Oi—0 to 7 inches; peat, high saturated hydraulic conductivity  
 Oe—7 to 13 inches; mucky peat, moderately high saturated hydraulic conductivity  
 Bjj, Bw—13 to 19 inches; very fine sandy loam, moderately high saturated hydraulic conductivity  
 C, Cjj—19 to 24 inches; silt loam, moderately high saturated hydraulic conductivity  
 Cf, Cjff—24 to 52 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity  
 Cf2—52 to 72 inches; permanently frozen material, very low saturated hydraulic conductivity

### ***Minor Components***

29-Donnelly and similar soils: 0 to 15 percent of the map unit  
 29-Moosehead and similar soils: 0 to 15 percent of the map unit

## **29JV01—Jarvis very fine sandy loam**

*Elevation:* 656 to 1,493 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Frost-free period:* 90 to 135 days

### ***29-Jarvis and similar soils***

*Extent:* 70 to 80 percent of the map unit  
*Landform:* flood plains  
*Slope shape:* linear  
*Slope range:* 0 to 2 percent  
*Parent material:* alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* rare

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* occasional

*Available water capacity (approximate):* 5.9 inches

*Vegetation:* white spruce, balsam poplar, and paper birch forest

*Representative Profile:*

Oe—0 to 3 inches; grayish brown moderately decomposed plant material, high saturated hydraulic conductivity

C1—3 to 6 inches; gray very fine sandy loam, moderately high saturated hydraulic conductivity

C2—6 to 24 inches; olive brown stratified sand to fine sand to very fine sandy loam, moderately high saturated hydraulic conductivity

2C3—24 to 72 inches; black very gravelly sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Salchaket and similar soils: 0 to 15 percent of the map unit

29-Chena and similar soils: 0 to 5 percent of the map unit

29-Noonku and similar soils: 0 to 10 percent of the map unit

29-Tanana and similar soils: 0 to 5 percent of the map unit

## **29JV02—Jarvis very fine sandy loam, occasionally flooded**

*Elevation:* 1,181 to 1,214 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### ***29-Jarvis, occasionally flooded, and similar soils***

*Extent:* 80 to 95 percent of the map unit

*Landform:* flood plains

*Slope shape:* concave

*Slope range:* 0 to 3 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* occasional

*Available water capacity (approximate):* 5.9 inches

*Vegetation:* white spruce, balsam poplar, and paper birch forest

*Representative Profile:*

Oe—0 to 3 inches; black moderately decomposed plant material, high saturated hydraulic conductivity

C1—3 to 6 inches; olive brown very fine sandy loam, moderately high saturated hydraulic conductivity

- C2—6 to 24 inches; grayish brown stratified sand to fine sand to very fine sandy loam, moderately high saturated hydraulic conductivity  
 2C3—24 to 72 inches; gray very gravelly sand, high saturated hydraulic conductivity

### ***Minor Components***

- 29-Riverwash: 0 to 20 percent of the map unit  
 29-Salchaket, occasionally flooded, and similar soils: 0 to 10 percent of the map unit

## **29JV04—Jarvis-Salchaket complex**

- Elevation:* 541 to 1,673 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Frost-free period:* 90 to 135 days

### ***29-Jarvis and similar soils***

- Extent:* 40 to 50 percent of the map unit  
*Landform:* flood plains  
*Slope shape:* linear  
*Slope range:* 0 to 2 percent  
*Parent material:* alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* negligible  
*Drainage class:* well drained  
*Flooding:* rare  
*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches  
*Ponding:* occasional  
*Available water capacity (approximate):* 5.9 inches  
*Vegetation:* white spruce, balsam poplar, and paper birch forest  
*Representative Profile:*  
     Oe—0 to 3 inches; grayish brown moderately decomposed plant material, high saturated hydraulic conductivity  
     C1—3 to 6 inches; gray very fine sandy loam, moderately high saturated hydraulic conductivity  
     C2—6 to 24 inches; olive brown stratified sand to fine sand to very fine sandy loam, moderately high saturated hydraulic conductivity  
     2C3—24 to 72 inches; black very gravelly sand, high saturated hydraulic conductivity

### ***29-Salchaket and similar soils***

- Extent:* 40 to 50 percent of the map unit  
*Landform:* flood plains  
*Slope shape:* linear  
*Slope range:* 0 to 2 percent  
*Parent material:* alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* negligible  
*Drainage class:* well drained  
*Flooding:* rare

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* frequent

*Available water capacity (approximate):* 9.7 inches

*Vegetation:* white spruce, balsam poplar, and paper birch forest

*Representative Profile:*

Oi—0 to 3 inches; variegated slightly decomposed plant material, high saturated hydraulic conductivity

C1—3 to 24 inches; dark grayish brown very fine sandy loam, moderately high saturated hydraulic conductivity

C2—24 to 45 inches; dark brown stratified silt loam to fine sand, moderately high saturated hydraulic conductivity

2C3—45 to 72 inches; olive brown very gravelly sand, high saturated hydraulic conductivity

### **Minor Components**

29-Tanana and similar soils: 0 to 5 percent of the map unit

29-Chena and similar soils: 0 to 2 percent of the map unit

29-Noonku and similar soils: 0 to 5 percent of the map unit

29-North Pole and similar soils: 0 to 5 percent of the map unit

29-Riverwash: 0 to 5 percent of the map unit

## **29JV05—Jarvis-Salchaket complex, occasionally flooded**

*Elevation:* 656 to 1,247 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### **29-Jarvis, occasionally flooded, and similar soils**

*Extent:* 30 to 60 percent of the map unit

*Landform:* flood plains

*Slope shape:* concave

*Slope range:* 0 to 3 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* occasional

*Available water capacity (approximate):* 5.9 inches

*Vegetation:* white spruce, balsam poplar, and paper birch forest

*Representative Profile:*

Oe—0 to 3 inches; black moderately decomposed plant material, high saturated hydraulic conductivity

C1—3 to 6 inches; olive brown very fine sandy loam, moderately high saturated hydraulic conductivity

C2—6 to 24 inches; gray stratified sand to fine sand to very fine sandy loam, moderately high saturated hydraulic conductivity

2C3—24 to 72 inches; grayish brown very gravelly sand, high saturated hydraulic conductivity

***29-Salchaket, occasionally flooded, and similar soils***

*Extent:* 30 to 60 percent of the map unit

*Landform:* flood plains

*Slope shape:* concave

*Slope range:* 0 to 3 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* frequent

*Available water capacity (approximate):* 9.7 inches

*Vegetation:* white spruce, balsam poplar, and paper birch forest

*Representative Profile:*

Oi—0 to 3 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity

C1—3 to 24 inches; olive brown very fine sandy loam, moderately high saturated hydraulic conductivity

C2—24 to 45 inches; variegated stratified silt loam to fine sand, moderately high saturated hydraulic conductivity

2C3—45 to 72 inches; dark grayish brown very gravelly sand, high saturated hydraulic conductivity

***Minor Components***

29-Tanana, occasionally flooded, and similar soils: 0 to 10 percent of the map unit

29-Chena, occasionally flooded, and similar soils: 0 to 5 percent of the map unit

29-Noonku and similar soils: 0 to 5 percent of the map unit

29-North Pole and similar soils: 0 to 5 percent of the map unit

**29KU01—Koyukuk-Audrey family complex**

*Elevation:* 591 to 787 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

***29-Koyukuk and similar soils***

*Extent:* 30 to 70 percent of the map unit

*Landform:* terraces

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* loess over alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none



*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 11.8 inches

*Representative Profile:*

Oi, Oe—0 to 6 inches; slightly decomposed plant material, high saturated hydraulic conductivity

A—6 to 34 inches; silt loam, moderately high saturated hydraulic conductivity

2C—34 to 72 inches; gravelly silt loam, moderately high saturated hydraulic conductivity

### **29-Audrey family and similar soils**

*Extent:* 20 to 45 percent of the map unit

*Landform:* flood plains, terraces

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* loess over gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* very high

*Drainage class:* somewhat poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 to 14 inches; June-Sept.—16 to more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 10.8 inches

*Representative Profile:*

Oi—0 to 8 inches; slightly decomposed plant material, high saturated hydraulic conductivity

A—8 to 13 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bjj, Bg, BC—13 to 26 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

2BC, 2C—26 to 72 inches; gravelly very fine sandy loam, moderately high saturated hydraulic conductivity

### **Minor Components**

29-Fubar and similar soils: 0 to 10 percent of the map unit

29-Lupine and similar soils: 0 to 10 percent of the map unit

29-Piledriver and similar soils: 0 to 10 percent of the map unit

## **29KZ01—Iksgiza-Histels complex, 0 to 15 percent slopes**

*Elevation:* 919 to 1,214 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### **29-Iksgiza and similar soils**

*Extent:* 40 to 70 percent of the map unit

*Landform:* plains

*Slope shape:* linear

*Slope range:* 3 to 15 percent

*Parent material:* organic material over loess over eolian sands

*Depth to permafrost:* 16 to 28 inches

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* very high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—0 to more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 5 inches

*Representative Profile:*

Oi—0 to 5 inches; peat, high saturated hydraulic conductivity

Oa—5 to 8 inches; muck, moderately low saturated hydraulic conductivity

A—8 to 12 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bjj, Bw—12 to 21 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Cf, Cjff—21 to 24 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

2Cf1—24 to 72 inches; permanently frozen sand, very low saturated hydraulic conductivity

### **29-Histels and similar soils**

*Extent:* 15 to 45 percent of the map unit

*Landform:* terraces

*Slope shape:* concave

*Slope range:* 0 to 3 percent

*Parent material:* organic material over loess

*Depth to permafrost:* 15 to 30 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* occasional

*Available water capacity (approximate):* 10.5 inches

*Representative Profile:*

Oi—0 to 18 inches; peat, moderately high saturated hydraulic conductivity

Bjj—18 to 25 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bjff—25 to 35 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

Cf—35 to 72 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### **Minor Components**

29-Lupine family and similar soils: 5 to 15 percent of the map unit

### **29KZ02—Iksgiza-Lupine, sandy, complex, 1 to 15 percent slopes**

*Elevation:* 919 to 1,214 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### **29-Iksgiza and similar soils**

*Extent:* 35 to 60 percent of the map unit

*Landform:* plains

*Slope shape:* linear

*Slope range:* 3 to 15 percent

*Parent material:* organic material over loess over eolian sands

*Depth to permafrost:* 16 to 28 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* very high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—0 to more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 5 inches

*Representative Profile:*

Oi—0 to 5 inches; peat, high saturated hydraulic conductivity

Oa—5 to 8 inches; muck, moderately low saturated hydraulic conductivity

A—8 to 12 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bjj, Bw—12 to 21 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Cf, Cjff—21 to 24 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

2Cf1—24 to 72 inches; permanently frozen sand, very low saturated hydraulic conductivity

### **29-Lupine family and similar soils**

*Extent:* 30 to 45 percent of the map unit

*Landform:* plains

*Slope shape:* linear

*Slope range:* 1 to 5 percent

*Parent material:* loess over eolian sands

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.8 inches

*Representative Profile:*

Oi—0 to 1 inch; slightly decomposed plant material, high saturated hydraulic conductivity

A—1 to 7 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bw—7 to 18 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

BC—18 to 25 inches; fine sandy loam, high saturated hydraulic conductivity

2C—25 to 72 inches; sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Beales and similar soils: 0 to 15 percent of the map unit

29-Histels and similar soils: 0 to 15 percent of the map unit

### **29LS03—Liscum-Terric Cryohemists complex, 0 to 1 percent slopes**

*Elevation:* 1,001 to 1,148 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

#### ***29-Liscum and similar soils***

*Extent:* 30 to 60 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear, concave

*Slope range:* 0 to 1 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—0 to 4 inches

*Ponding:* frequent

*Available water capacity (approximate):* 11.9 inches

*Vegetation:* sedges and grasses

*Representative Profile:*

Oi—0 to 3 inches; black peat, high saturated hydraulic conductivity

Oa—3 to 11 inches; dark brown muck, moderately low saturated hydraulic conductivity

A—11 to 15 inches; olive brown mucky silt loam, moderately high saturated hydraulic conductivity

Bg—15 to 70 inches; very dark grayish brown stratified silt loam to loamy fine sand, moderately high saturated hydraulic conductivity

C—70 to 72 inches; olive brown and gray very gravelly sandy loam, high saturated hydraulic conductivity

#### ***29-Terric Cryohemists and similar soils***

*Extent:* 30 to 60 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear, concave

*Slope range:* 0 to 1 percent

*Parent material:* organic material over alluvium over lacustrine deposits

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 11.3 inches

*Representative Profile:*

Oi—0 to 3 inches; dark grayish brown peat, high saturated hydraulic conductivity

Oe—3 to 12 inches; dark grayish brown mucky peat, moderately high saturated hydraulic conductivity

Oa—12 to 22 inches; dark grayish brown gravelly muck, moderately low saturated hydraulic conductivity

Bg, Cg—22 to 72 inches; dark grayish brown extremely gravelly silt loam, high saturated hydraulic conductivity

### ***Minor Components***

29-Mosquito and similar soils: 5 to 15 percent of the map unit

29-Noonku and similar soils: 5 to 15 percent of the map unit

## **29LU01—Lupine very fine sandy loam**

*Elevation:* 1,165 to 1,558 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### ***29-Lupine and similar soils***

*Extent:* 50 to 80 percent of the map unit

*Landform:* fans, fan terraces

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* frequent

*Available water capacity (approximate):* 5.9 inches

*Representative Profile:*

Oe—0 to 3 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—3 to 6 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—6 to 16 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

BC—16 to 20 inches; very fine sandy loam, high saturated hydraulic conductivity

2C—20 to 72 inches; very gravelly sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Donnelly and similar soils: 0 to 12 percent of the map unit

29-Browne and similar soils: 0 to 5 percent of the map unit

29-Moosehead and similar soils: 0 to 30 percent of the map unit

29-Sawmill Creek and similar soils: 0 to 7 percent of the map unit

29-Volkmar and similar soils: 0 to 7 percent of the map unit

**29LU02—Lupine family-Beales complex, 0 to 3 percent slopes**

*Elevation:* 1,066 to 1,378 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

**29-Lupine family and similar soils**

*Extent:* 30 to 50 percent of the map unit

*Landform:* plains

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* loess over eolian sands

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.8 inches

*Representative Profile:*

Oi—0 to 1 inch; slightly decomposed plant material, high saturated hydraulic conductivity

A—1 to 7 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bw—7 to 18 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

BC—18 to 25 inches; fine sandy loam, high saturated hydraulic conductivity

2C—25 to 72 inches; sand, high saturated hydraulic conductivity

**29-Beales and similar soils**

*Extent:* 30 to 45 percent of the map unit

*Landform:* plains

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* loess over eolian sands

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* somewhat excessively drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 4.9 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 4 inches; slightly decomposed plant material, high saturated hydraulic conductivity

A—4 to 8 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bw—8 to 12 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

2Bw—12 to 20 inches; loamy sand, high saturated hydraulic conductivity

2C—20 to 72 inches; sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Bohica and similar soils: 0 to 15 percent of the map unit

29-Moosehead and similar soils: 0 to 15 percent of the map unit

29-Gerstle and similar soils: 0 to 10 percent of the map unit

### **29LU03—Lupine family-Beales complex, 3 to 12 percent slopes**

*Elevation:* 1,017 to 1,394 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

#### ***29-Lupine family and similar soils***

*Extent:* 30 to 50 percent of the map unit

*Landform:* plains

*Slope shape:* linear

*Slope range:* 3 to 12 percent

*Parent material:* loess over eolian sands

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.8 inches

*Representative Profile:*

Oi—0 to 1 inch; slightly decomposed plant material, high saturated hydraulic conductivity

A—1 to 7 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bw—7 to 18 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

BC—18 to 25 inches; fine sandy loam, high saturated hydraulic conductivity

2C—25 to 72 inches; sand, high saturated hydraulic conductivity

#### ***29-Beales and similar soils***

*Extent:* 30 to 45 percent of the map unit

*Landform:* plains

*Slope shape:* linear

*Slope range:* 3 to 12 percent

*Parent material:* loess over eolian sands

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* somewhat excessively drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 4.9 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 4 inches; slightly decomposed plant material, high saturated hydraulic conductivity  
 A—4 to 8 inches; very fine sandy loam, moderately high saturated hydraulic conductivity  
 Bw—8 to 12 inches; very fine sandy loam, moderately high saturated hydraulic conductivity  
 2Bw—12 to 20 inches; loamy sand, high saturated hydraulic conductivity  
 2C—20 to 72 inches; sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Bohica and similar soils: 0 to 15 percent of the map unit  
 29-Moosehead and similar soils: 0 to 15 percent of the map unit  
 29-Gerstle and similar soils: 0 to 10 percent of the map unit

## **29LU04—Lupine family-Bohica-Iksgiza complex, 4 to 20 percent slopes**

*Elevation:* 1,115 to 1,411 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Frost-free period:* 90 to 135 days

### ***29-Lupine family and similar soils***

*Extent:* 25 to 55 percent of the map unit  
*Landform:* hills  
*Slope shape:* linear  
*Slope range:* 4 to 12 percent  
*Parent material:* loess over eolian sands  
*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 72 inches  
*Ponding:* none  
*Available water capacity (approximate):* 6.8 inches  
*Representative Profile:*

Oi—0 to 1 inch; slightly decomposed plant material, high saturated hydraulic conductivity  
 A—1 to 7 inches; very fine sandy loam, moderately high saturated hydraulic conductivity  
 Bw—7 to 18 inches; very fine sandy loam, moderately high saturated hydraulic conductivity  
 BC—18 to 25 inches; fine sandy loam, high saturated hydraulic conductivity  
 2C—25 to 72 inches; sand, high saturated hydraulic conductivity

### ***29-Bohica and similar soils***

*Extent:* 10 to 40 percent of the map unit  
*Landform:* hills  
*Slope shape:* linear  
*Slope range:* 4 to 20 percent  
*Parent material:* loess over alluvium



*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 10.7 inches

*Representative Profile:*

Oe—0 to 4 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—4 to 11 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bw—11 to 27 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

BC—27 to 42 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

2C—42 to 72 inches; sand, high saturated hydraulic conductivity

### ***29-Iksgiza and similar soils***

*Extent:* 10 to 25 percent of the map unit

*Landform:* hills

*Slope shape:* linear

*Slope range:* 4 to 12 percent

*Parent material:* organic material over loess over eolian sands

*Depth to permafrost:* 16 to 28 inches

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* very high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—0 to more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 5 inches

*Representative Profile:*

Oi—0 to 5 inches; peat, high saturated hydraulic conductivity

Oa—5 to 8 inches; muck, moderately low saturated hydraulic conductivity

A—8 to 12 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

B<sub>ij</sub>, B<sub>w</sub>—12 to 21 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

C<sub>f</sub>, C<sub>jff</sub>—21 to 24 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

2C<sub>f1</sub>—24 to 72 inches; permanently frozen sand, very low saturated hydraulic conductivity

### ***Minor Components***

29-Beales and similar soils: 5 to 15 percent of the map unit

29-Lupine family, greater than 12 percent slopes, and similar soils: 5 to 25 percent of the map unit

29-Gerstle and similar soils: 0 to 10 percent of the map unit

## 29LU05—Lupine-Jarvis complex

*Elevation:* 1,197 to 1,493 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### 29-Lupine and similar soils

*Extent:* 30 to 60 percent of the map unit

*Landform:* alluvial fans

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* frequent

*Available water capacity (approximate):* 5.9 inches

*Representative Profile:*

Oe—0 to 3 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—3 to 6 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—6 to 16 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

BC—16 to 20 inches; very fine sandy loam, high saturated hydraulic conductivity

2C—20 to 72 inches; very gravelly sand, high saturated hydraulic conductivity

### 29-Jarvis and similar soils

*Extent:* 20 to 40 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* rare

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* occasional

*Available water capacity (approximate):* 5.9 inches

*Vegetation:* white spruce, balsam poplar, and paper birch forest

*Representative Profile:*

Oe—0 to 3 inches; black moderately decomposed plant material, high saturated hydraulic conductivity

C1—3 to 6 inches; olive brown very fine sandy loam, moderately high saturated hydraulic conductivity

C2—6 to 24 inches; grayish brown stratified sand to fine sand to very fine sandy loam, moderately high saturated hydraulic conductivity

2C3—24 to 72 inches; gray very gravelly sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Donnelly and similar soils: 0 to 15 percent of the map unit

29-Salchaket family and similar soils: 0 to 15 percent of the map unit

### **29MH01—Moosehead family-Nenana complex, 3 to 10 percent slopes**

*Elevation:* 1,230 to 1,509 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

#### ***29-Moosehead family and similar soils***

*Extent:* 50 to 70 percent of the map unit

*Landform:* flood plains on alluvial fans

*Slope shape:* concave

*Slope range:* 3 to 8 percent

*Parent material:* loamy alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Representative Profile:*

Oi—0 to 3 inches; slightly decomposed plant material, high saturated hydraulic conductivity

E—3 to 6 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Oi—6 to 7 inches; slightly decomposed plant material, high saturated hydraulic conductivity

E'—7 to 14 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

B—14 to 26 inches; fine sandy loam, moderately high saturated hydraulic conductivity

2C—26 to 72 inches; extremely gravelly coarse sand, high saturated hydraulic conductivity

#### ***29-Nenana and similar soils***

*Extent:* 15 to 40 percent of the map unit

*Landform:* fan terraces on alluvial fans

*Slope shape:* linear

*Slope range:* 5 to 10 percent

*Parent material:* loess over alluvium

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 5.9 inches

*Vegetation:* white spruce, quaking aspen, and paper birch forest

*Representative Profile:*

Oe—0 to 3 inches; dark brown moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—3 to 6 inches; brown silt loam, moderately high saturated hydraulic conductivity

Bw—6 to 13 inches; strong brown very fine sandy loam, moderately high saturated hydraulic conductivity

BC—13 to 20 inches; dark yellowish brown gravelly very fine sandy loam, high saturated hydraulic conductivity

2C—20 to 72 inches; dark brown very gravelly loamy sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Tanacross family and similar soils: 5 to 15 percent of the map unit

## **29NE01—Nenana silt loam, 0 to 3 percent slope**

*Elevation:* 1,027 to 1,575 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### ***29-Nenana and similar soils***

*Extent:* 65 to 80 percent of the map unit

*Landform:* alluvial fans

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* loess over alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 5.9 inches

*Vegetation:* white spruce, quaking aspen, and paper birch forest

*Representative Profile:*

Oe—0 to 3 inches; dark yellowish brown moderately decomposed plant material, moderately high saturated hydraulic conductivity

A—3 to 6 inches; strong brown silt loam, moderately high saturated hydraulic conductivity

Bw—6 to 13 inches; dark brown very fine sandy loam, moderately high saturated hydraulic conductivity

BC—13 to 20 inches; brown gravelly very fine sandy loam, high saturated hydraulic conductivity

2C—20 to 72 inches; dark yellowish brown very gravelly loamy sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Donnelly and similar soils: 0 to 10 percent of the map unit  
 29-Lupine and similar soils: 0 to 7 percent of the map unit  
 29-Moosehead and similar soils: 0 to 7 percent of the map unit  
 29-Richardson and similar soils: 0 to 7 percent of the map unit  
 29-Sawmill Creek and similar soils: 0 to 7 percent of the map unit  
 29-Histic Cryaquepts and similar soils: 0 to 5 percent of the map unit  
 29-Volkmar and similar soils: 0 to 5 percent of the map unit

### **29NE03—Nenana-Donnelly complex, 0 to 3 percent slopes**

*Elevation:* 1,197 to 1,624 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Frost-free period:* 90 to 135 days

#### ***29-Nenana and similar soils***

*Extent:* 35 to 55 percent of the map unit  
*Landform:* plains  
*Slope shape:* concave  
*Slope range:* 0 to 3 percent  
*Parent material:* loess over alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* negligible  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 72 inches  
*Ponding:* none  
*Available water capacity (approximate):* 5.9 inches  
*Vegetation:* white spruce, quaking aspen, and paper birch forest  
*Representative Profile:*  
     Oe—0 to 3 inches; strong brown moderately decomposed plant material, moderately high saturated hydraulic conductivity  
     A—3 to 6 inches; dark yellowish brown silt loam, moderately high saturated hydraulic conductivity  
     Bw—6 to 13 inches; brown very fine sandy loam, moderately high saturated hydraulic conductivity  
     BC—13 to 20 inches; dark brown gravelly very fine sandy loam, high saturated hydraulic conductivity  
     2C—20 to 72 inches; strong brown very gravelly loamy sand, high saturated hydraulic conductivity

#### ***29-Donnelly and similar soils***

*Extent:* 35 to 55 percent of the map unit  
*Landform:* plains  
*Slope shape:* linear  
*Slope range:* 0 to 3 percent  
*Parent material:* loess over sandy and gravelly alluvium and/or sandy and gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* negligible

*Drainage class:* somewhat excessively drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 3.3 inches

*Vegetation:* open black spruce forest or birch scrub

*Representative Profile:*

Oi—0 to 2 inches; slightly decomposed plant material, high saturated hydraulic conductivity

Bw—2 to 6 inches; gravelly silt loam, moderately high saturated hydraulic conductivity

BC—6 to 12 inches; gravelly silt loam, high saturated hydraulic conductivity

2C—12 to 72 inches; very gravelly sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Lupine family and similar soils: 5 to 15 percent of the map unit

29-Beales and similar soils: 0 to 10 percent of the map unit

## **29PL01—Eielson, rarely flooded-Piledriver complex**

*Elevation:* 558 to 1,197 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### ***29-Eielson, rarely flooded, and similar soils***

*Extent:* 30 to 60 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* rare

*Depth to high water table (approximate):* April-May—0 to 47 inches; June-Sept.—47 inches

*Ponding:* frequent

*Available water capacity (approximate):* 12.3 inches

*Vegetation:* white spruce and balsam poplar forest

*Representative Profile:*

Oi—0 to 2 inches; dark grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

C1—2 to 49 inches; very dark brown very fine sandy loam, moderately high saturated hydraulic conductivity

C2—49 to 71 inches; olive brown and dark gray stratified silt loam to fine sand, moderately high saturated hydraulic conductivity

2C3—71 to 72 inches; dark grayish brown very gravelly sand, high saturated hydraulic conductivity

### **29-Piledriver and similar soils**

*Extent:* 25 to 60 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* somewhat poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-May—0 to 47 inches; June-Sept.—47 inches

*Ponding:* frequent

*Available water capacity (approximate):* 7.3 inches

*Vegetation:* white spruce and balsam poplar forest

*Representative Profile:*

Oi—0 to 3 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity

C1—3 to 15 inches; dark olive brown very fine sandy loam, moderately high saturated hydraulic conductivity

C2—15 to 33 inches; light olive brown and grayish brown stratified sand to fine sand to very fine sandy loam, moderately high saturated hydraulic conductivity

2C3—33 to 72 inches; grayish brown very gravelly sand, high saturated hydraulic conductivity

### **Minor Components**

29-Noonku and similar soils: 0 to 7 percent of the map unit

29-Salchaket and similar soils: 0 to 7 percent of the map unit

29-Tanana and similar soils: 0 to 7 percent of the map unit

29-Fubar and similar soils: 0 to 5 percent of the map unit

29-Riverwash: 0 to 5 percent of the map unit

### **29PT01—Pits, gravel**

*Elevation:* 623 to 1,165 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### **29-Pits, gravel**

*Extent:* 100 percent of the map unit

*Landform:* gravel pits

*Slope range:* 0 to 2 percent

### **29PT02—Pits, quarry**

*Elevation:* 1,001 to 1,401 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### **29-Pits, quarry**

*Extent:* 100 percent of the map unit

*Landform:* quarries

*Slope range:* 0 to 5 percent

### **29RC01—Richardson-Salchaket complex, 0 to 3 percent slopes**

*Elevation:* 1,132 to 1,197 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

#### **29-Richardson and similar soils**

*Extent:* 40 to 60 percent of the map unit

*Landform:* plains

*Slope shape:* concave

*Slope range:* 0 to 3 percent

*Parent material:* loess over alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* frequent

*Available water capacity (approximate):* 12.5 inches

*Vegetation:* white spruce, black spruce, and paper birch forest

*Representative Profile:*

Oi—0 to 1 inch; slightly decomposed plant material, high saturated hydraulic conductivity

Bw—1 to 20 inches; silt loam, moderately high saturated hydraulic conductivity

BC—20 to 59 inches; silt loam, moderately high saturated hydraulic conductivity

2C—59 to 72 inches; loamy sand, very high saturated hydraulic conductivity

#### **29-Salchaket, occasionally flooded, and similar soils**

*Extent:* 15 to 30 percent of the map unit

*Landform:* flood plains

*Slope shape:* concave

*Slope range:* 0 to 3 percent

*Parent material:* alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* frequent

*Available water capacity (approximate):* 9.7 inches

*Vegetation:* white spruce, balsam poplar, and paper birch forest

*Representative Profile:*



- Oi—0 to 3 inches; variegated slightly decomposed plant material, high saturated hydraulic conductivity
- C1—3 to 24 inches; olive brown very fine sandy loam, moderately high saturated hydraulic conductivity
- C2—24 to 45 inches; dark grayish brown stratified silt loam to fine sand, moderately high saturated hydraulic conductivity
- 2C3—45 to 72 inches; dark brown very gravelly sand, high saturated hydraulic conductivity

### ***Minor Components***

- 29-Gerstle and similar soils: 5 to 15 percent of the map unit
- 29-Volkmar and similar soils: 5 to 15 percent of the map unit

## **29SA01—Sawmill Creek silt loam**

*Elevation:* 1,083 to 1,214 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Frost-free period:* 90 to 135 days

### ***29-Sawmill Creek and similar soils***

*Extent:* 75 to 90 percent of the map unit  
*Landform:* alluvial fans  
*Slope shape:* linear  
*Slope range:* 0 to 2 percent  
*Parent material:* loess over glaciofluvial deposits  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* negligible  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 72 inches  
*Ponding:* frequent  
*Available water capacity (approximate):* 4.9 inches  
*Representative Profile:*

- Oe—0 to 4 inches; moderately decomposed plant material, high saturated hydraulic conductivity
- A—4 to 5 inches; silt loam, moderately high saturated hydraulic conductivity
- Bw—5 to 12 inches; silt loam, moderately high saturated hydraulic conductivity
- 2BC—12 to 14 inches; fine sandy loam, high saturated hydraulic conductivity
- 3Ck—14 to 72 inches; extremely gravelly loamy coarse sand, high saturated hydraulic conductivity

### ***Minor Components***

- 29-Gerstle and similar soils: 0 to 15 percent of the map unit
- 29-Browne and similar soils: 0 to 10 percent of the map unit

## **29SC01—Salchaket-Hogan families complex, 1 to 4 percent slopes**

*Elevation:* 1,197 to 1,263 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Frost-free period:* 90 to 135 days

### ***29-Salchaket family and similar soils***

*Extent:* 50 to 85 percent of the map unit

*Landform:* flood plains on alluvial fans

*Slope shape:* concave

*Slope range:* 1 to 3 percent

*Parent material:* loess over alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* occasional

*Available water capacity (approximate):* 8.6 inches

*Representative Profile:*

Oi—0 to 4 inches; slightly decomposed plant material, high saturated hydraulic conductivity

BC—4 to 8 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

2C—8 to 72 inches; stratified coarse sand to silt loam, high saturated hydraulic conductivity

### ***29-Hogan family and similar soils***

*Extent:* 15 to 50 percent of the map unit

*Landform:* flood plains on alluvial fans

*Slope shape:* concave

*Slope range:* 1 to 4 percent

*Parent material:* alluvium

*Depth to permafrost:* 33 to 49 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 8.1 inches

*Representative Profile:*

Oi—0 to 6 inches; slightly decomposed plant material, high saturated hydraulic conductivity

Oa, Oe—6 to 8 inches; highly decomposed plant material, moderately high saturated hydraulic conductivity

Bw—8 to 24 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

2BC, 2C—24 to 47 inches; fine sandy loam, high saturated hydraulic conductivity

2Cf—47 to 72 inches; permanently frozen material, very low saturated hydraulic conductivity

### ***Minor Components***

29-Tanacross family and similar soils: 0 to 10 percent of the map unit

**29SC02—Salchaket very fine sandy loam***Elevation:* 558 to 1,329 feet*Mean annual precipitation:* 10 to 14 inches*Frost-free period:* 90 to 135 days**29-Salchaket and similar soils***Extent:* 80 to 90 percent of the map unit*Landform:* flood plains*Slope shape:* linear*Slope range:* 0 to 2 percent*Parent material:* alluvium*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe*Runoff:* negligible*Drainage class:* well drained*Flooding:* rare*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches*Ponding:* frequent*Available water capacity (approximate):* 9.7 inches*Vegetation:* white spruce, balsam poplar, and paper birch forest*Representative Profile:*

Oi—0 to 3 inches; variegated slightly decomposed plant material, high saturated hydraulic conductivity

C1—3 to 24 inches; dark grayish brown very fine sandy loam, moderately high saturated hydraulic conductivity

C2—24 to 45 inches; olive brown stratified silt loam to fine sand, moderately high saturated hydraulic conductivity

2C3—45 to 72 inches; dark brown very gravelly sand, high saturated hydraulic conductivity

**Minor Components**

29-Jarvis and similar soils: 5 to 10 percent of the map unit

29-Tanana and similar soils: 5 to 10 percent of the map unit

29-Chena and similar soils: 0 to 2 percent of the map unit

**29SC03—Salchaket very fine sandy loam, occasionally flooded***Elevation:* 1,132 to 1,247 feet*Mean annual precipitation:* 10 to 14 inches*Frost-free period:* 90 to 135 days**29-Salchaket, occasionally flooded, and similar soils***Extent:* 70 to 95 percent of the map unit*Landform:* flood plains*Slope shape:* concave*Slope range:* 0 to 3 percent*Parent material:* alluvium*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe*Runoff:* negligible

*Drainage class:* well drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* frequent

*Available water capacity (approximate):* 9.7 inches

*Vegetation:* white spruce, balsam poplar, and paper birch forest

*Representative Profile:*

Oi—0 to 3 inches; olive brown slightly decomposed plant material, high saturated hydraulic conductivity

C1—3 to 24 inches; dark brown very fine sandy loam, moderately high saturated hydraulic conductivity

C2—24 to 45 inches; dark grayish brown stratified silt loam to fine sand, moderately high saturated hydraulic conductivity

2C3—45 to 72 inches; variegated very gravelly sand, high saturated hydraulic conductivity

### ***Minor Components***

29-Jarvis, occasionally flooded, and similar soils: 5 to 15 percent of the map unit

29-Tanana, occasionally flooded, and similar soils: 0 to 15 percent of the map unit

## **29TC01—Tanacross peat**

*Elevation:* 1,099 to 1,148 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### ***29-Tanacross and similar soils***

*Extent:* 70 to 80 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* organic material over alluvium

*Depth to permafrost:* 10 to 28 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* rare

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 3 inches

*Vegetation:* black spruce woodland

*Representative Profile:*

Oi—0 to 9 inches; dark brown peat, high saturated hydraulic conductivity

A—9 to 11 inches; black mucky silt loam, moderately high saturated hydraulic conductivity

Bjig—11 to 17 inches; dark gray and dark yellowish brown stratified fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

Bjif—17 to 48 inches; dark brown permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

Cf—48 to 72 inches; dark brown permanently frozen material, very low saturated hydraulic conductivity

### ***Minor Components***

29-Eielson, rarely flooded, and similar soils: 0 to 10 percent of the map unit  
29-Jarvis and similar soils: 0 to 7 percent of the map unit  
29-Liscum and similar soils: 0 to 7 percent of the map unit  
29-Noonku and similar soils: 0 to 7 percent of the map unit  
29-Tanana and similar soils: 0 to 7 percent of the map unit

## **29TC02—Tanacross family-Moosehead complex, 0 to 5 percent slopes**

*Elevation:* 1,230 to 1,673 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Frost-free period:* 90 to 135 days

### ***29-Tanacross family and similar soils***

*Extent:* 40 to 80 percent of the map unit  
*Landform:* fan terraces on alluvial fans  
*Slope shape:* linear  
*Slope range:* 0 to 5 percent  
*Parent material:* organic material over alluvium  
*Depth to permafrost:* 20 to 28 inches  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* very high  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—0 to more than 72 inches  
*Ponding:* none  
*Available water capacity (approximate):* 6 inches  
*Representative Profile:*  
    Oi—0 to 7 inches; peat, high saturated hydraulic conductivity  
    Oe—7 to 13 inches; mucky peat, moderately high saturated hydraulic conductivity  
    Bjj, Bw—13 to 19 inches; very fine sandy loam, moderately high saturated hydraulic conductivity  
    C, Cjj—19 to 24 inches; silt loam, moderately high saturated hydraulic conductivity  
    Cf, Cjff—24 to 52 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity  
    Cf2—52 to 72 inches; permanently frozen material, very low saturated hydraulic conductivity

### ***29-Moosehead and similar soils***

*Extent:* 15 to 45 percent of the map unit  
*Landform:* alluvial fans  
*Slope shape:* concave  
*Slope range:* 0 to 4 percent  
*Parent material:* loess over sandy and silty alluvium over sandy and gravelly alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* frequent

*Available water capacity (approximate):* 5.6 inches

*Vegetation:* paper birch, spruce, and aspen forest

*Representative Profile:*

Oi—0 to 5 inches; slightly decomposed plant material, high saturated hydraulic conductivity

A—5 to 7 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—7 to 20 inches; very fine sandy loam, high saturated hydraulic conductivity

BC—20 to 26 inches; stratified fine sandy loam to very fine sandy loam, high saturated hydraulic conductivity

2C—26 to 72 inches; gravelly sand, high saturated hydraulic conductivity

### **Minor Components**

29-Moosehead family and similar soils: 5 to 15 percent of the map unit

29-Donnelly and similar soils: 0 to 15 percent of the map unit

## **29TC03—Tanacross, occasionally flooded-Histels association**

*Elevation:* 902 to 1,115 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### **29-Tanacross, occasionally flooded, and similar soils**

*Extent:* 5 to 95 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear

*Slope range:* 0 to 1 percent

*Parent material:* organic material over alluvium

*Depth to permafrost:* 10 to 28 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—0 to 8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 3 inches

*Vegetation:* black spruce woodland

*Representative Profile:*

Oi—0 to 9 inches; dark gray and dark yellowish brown peat, high saturated hydraulic conductivity

A—9 to 11 inches; black mucky silt loam, moderately high saturated hydraulic conductivity

Bjg—11 to 17 inches; dark brown stratified fine sandy loam to silt loam, moderately high saturated hydraulic conductivity

- Bjff—17 to 48 inches; dark gray and dark yellowish brown permanently frozen very fine sandy loam, very low saturated hydraulic conductivity  
 Cf—48 to 72 inches; dark gray and dark yellowish brown permanently frozen material, very low saturated hydraulic conductivity

### ***29-Histels and similar soils***

*Extent:* 5 to 95 percent of the map unit  
*Landform:* terraces  
*Slope shape:* concave  
*Slope range:* 0 to 1 percent  
*Parent material:* organic material over loess  
*Depth to permafrost:* 15 to 30 inches  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* negligible  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—0 inches  
*Ponding:* occasional  
*Available water capacity (approximate):* 10.5 inches  
*Representative Profile:*  
     Oi—0 to 18 inches; peat, moderately high saturated hydraulic conductivity  
     Bjj—18 to 25 inches; very fine sandy loam, moderately high saturated hydraulic conductivity  
     Bjff—25 to 35 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity  
     Cf—35 to 72 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### ***Minor Components***

29-Browne and similar soils: 0 to 15 percent of the map unit

### **29TN01—Tanana silt loam**

*Elevation:* 558 to 1,312 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Frost-free period:* 90 to 135 days

### ***29-Tanana and similar soils***

*Extent:* 65 to 90 percent of the map unit  
*Landform:* flood plains, terraces  
*Slope shape:* linear  
*Slope range:* 0 to 2 percent  
*Parent material:* alluvium  
*Depth to permafrost:* 16 to 47 inches  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* negligible  
*Drainage class:* poorly drained  
*Flooding:* rare  
*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—6 to 12 inches

*Ponding:* frequent

*Available water capacity (approximate):* 5.2 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 3 inches; very dark brown slightly decomposed plant material, high saturated hydraulic conductivity

A—3 to 6 inches; very dark grayish brown mucky silt loam, moderately high saturated hydraulic conductivity

Bjgg—6 to 25 inches; dark grayish brown very fine sandy loam, moderately high saturated hydraulic conductivity

Cjjgf—25 to 72 inches; very dark brown permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### **Minor Components**

29-Tanacross and similar soils: 2 to 15 percent of the map unit

29-Jarvis and similar soils: 0 to 10 percent of the map unit

29-Noonku and similar soils: 0 to 10 percent of the map unit

## **29TS01—Terric Saprístels**

*Elevation:* 902 to 1,001 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### **29-Terric Saprístels and similar soils**

*Extent:* 85 to 95 percent of the map unit

*Landform:* plains

*Slope shape:* concave

*Slope range:* 2 to 4 percent

*Parent material:* organic material over coarse-silty alluvium

*Depth to permafrost:* 10 to 30 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* occasional

*Available water capacity (approximate):* 10.7 inches

*Representative Profile:*

Oa—0 to 19 inches; muck, moderately high saturated hydraulic conductivity

A—19 to 25 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Af—25 to 72 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### **Minor Components**

29-Windy Creek and similar soils: 5 to 15 percent of the map unit



**29VM01—Volkmar silt loam**

*Elevation:* 1,033 to 1,788 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

**29-Volkmar and similar soils**

*Extent:* 80 to 95 percent of the map unit

*Landform:* stream terraces

*Slope shape:* linear

*Slope range:* 0 to 7 percent

*Parent material:* loess over alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* frequent

*Available water capacity (approximate):* 7.7 inches

*Vegetation:* white spruce, paper birch, or quaking aspen forest

*Representative Profile:*

Oi—0 to 4 inches; slightly decomposed plant material, high saturated hydraulic conductivity

A—4 to 8 inches; silt loam, moderately high saturated hydraulic conductivity

Bw—8 to 18 inches; silt loam, moderately high saturated hydraulic conductivity

BC, C—18 to 30 inches; silt loam, moderately high saturated hydraulic conductivity

2C—30 to 72 inches; very gravelly sand, high saturated hydraulic conductivity

**Minor Components**

29-Richardson and similar soils: 0 to 10 percent of the map unit

29-Tanana and similar soils: 0 to 10 percent of the map unit

**29WR01—Water-Riverwash complex**

*Elevation:* 541 to 1,181 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

**29-Water**

*Extent:* 35 to 60 percent of the map unit

*Landform:* rivers, streams

**29-Riverwash**

*Extent:* 20 to 45 percent of the map unit

*Landform:* flood plains

*Slope range:* 0 to 2 percent

### ***Minor Components***

29-Eielson and similar soils: 3 to 10 percent of the map unit  
 29-Piledriver and similar soils: 2 to 10 percent of the map unit  
 29-Jarvis and similar soils: 1 to 5 percent of the map unit  
 29-Salchaket and similar soils: 1 to 5 percent of the map unit

### **31AN02—Angel-McCloud complex, 15 to 40 percent slopes**

*Elevation:* 738 to 1,378 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Frost-free period:* 80 to 120 days

#### ***31-Angel and similar soils***

*Extent:* 30 to 55 percent of the map unit  
*Landform:* hills  
*Position on slope:* backslopes, summits  
*Slope shape:* linear, convex  
*Slope range:* 15 to 40 percent  
*Parent material:* loess over residuum weathered from granite  
*Depth to paralithic bedrock:* 9 to 20 inches  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 72 inches  
*Ponding:* none  
*Available water capacity (approximate):* 2.7 inches  
*Vegetation:* black spruce, paper birch, quaking aspen and white spruce forest  
*Representative Profile:*  
     Oi—0 to 2 inches; dark brown peat, high saturated hydraulic conductivity  
     AE—2 to 4 inches; dark yellowish brown silt loam, moderately high saturated hydraulic conductivity  
     Bw—4 to 8 inches; brown silt loam, moderately high saturated hydraulic conductivity  
     2BCr—8 to 19 inches; dark brown very cobbly sandy loam, high saturated hydraulic conductivity  
     2Cr—19 to 72 inches; dark brown weathered bedrock, high saturated hydraulic conductivity

#### ***31-McCloud and similar soils***

*Extent:* 30 to 55 percent of the map unit  
*Landform:* hills  
*Position on slope:* backslopes, summits  
*Slope shape:* linear, convex  
*Slope range:* 15 to 40 percent  
*Parent material:* loess over residuum weathered from granite  
*Depth to paralithic bedrock:* 21 to 35 inches  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* very high  
*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.4 inches

*Vegetation:* black spruce, paper birch, quaking aspen and white spruce forest

*Representative Profile:*

Oi—0 to 3 inches; dark yellowish brown peat, high saturated hydraulic conductivity

Bw—3 to 20 inches; olive brown silt loam, moderately high saturated hydraulic conductivity

C—20 to 29 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

2Cr—29 to 72 inches; dark yellowish brown weathered bedrock, very low saturated hydraulic conductivity

### ***Minor Components***

31-Angel, less than 15 percent slopes, and similar soils: 1 to 10 percent of the map unit

31-McCloud, less than 15 percent slope, and similar soils: 1 to 10 percent of the map unit

### **31AN03—Angel-McCloud complex, 3 to 15 percent slopes**

*Elevation:* 574 to 2,500 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Angel and similar soils***

*Extent:* 40 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 3 to 15 percent

*Parent material:* loess over residuum weathered from granite

*Depth to paralithic bedrock:* 9 to 20 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 2.7 inches

*Vegetation:* black spruce, paper birch, quaking aspen and white spruce forest

*Representative Profile:*

Oi—0 to 2 inches; dark brown peat, high saturated hydraulic conductivity

AE—2 to 4 inches; dark yellowish brown silt loam, moderately high saturated hydraulic conductivity

Bw—4 to 8 inches; brown silt loam, moderately high saturated hydraulic conductivity

2BCr—8 to 19 inches; dark brown very cobbly sandy loam, high saturated hydraulic conductivity

2Cr—19 to 72 inches; dark brown weathered bedrock, high saturated hydraulic conductivity

### **31-McCloud and similar soils**

*Extent:* 30 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 3 to 15 percent

*Parent material:* loess over residuum weathered from granite

*Depth to paralithic bedrock:* 21 to 35 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.4 inches

*Vegetation:* black spruce, paper birch, quaking aspen and white spruce forest

*Representative Profile:*

Oi—0 to 3 inches; olive brown peat, high saturated hydraulic conductivity

Bw—3 to 20 inches; dark yellowish brown silt loam, moderately high saturated hydraulic conductivity

C—20 to 29 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

2Cr—29 to 72 inches; olive brown weathered bedrock, very low saturated hydraulic conductivity

### **Minor Components**

31-Angel, greater than 15 percent slopes, and similar soils: 0 to 5 percent of the map unit

31-McCloud, greater than 15 percent slopes, and similar soils: 0 to 5 percent of the map unit

### **31BR01—Brigadier-Ester complex, 15 to 45 percent slopes**

*Elevation:* 499 to 2,920 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### **31-Brigadier and similar soils**

*Extent:* 40 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 15 to 25 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 12 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 3.2 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 6 inches; olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—6 to 11 inches; black silt loam, moderately high saturated hydraulic conductivity

Bw—11 to 16 inches; brown silt loam, moderately high saturated hydraulic conductivity

2BC—16 to 20 inches; olive brown very channery sandy loam, high saturated hydraulic conductivity

2Cr—20 to 72 inches; olive brown weathered bedrock, high saturated hydraulic conductivity

### **31-Ester and similar soils**

*Extent:* 20 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes

*Slope shape:* linear

*Slope range:* 20 to 45 percent

*Parent material:* mossy organic material over colluvium and/or loess over residuum weathered from schist

*Depth to permafrost:* 7 to 30 inches

*Depth to paralithic bedrock:* 14 to 39 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—4 inches

*Ponding:* none

*Available water capacity (approximate):* 2.1 inches

*Vegetation:* black spruce woodland

*Representative Profile:*

Oi—0 to 9 inches; olive brown peat, high saturated hydraulic conductivity

ABjj—9 to 12 inches; dark reddish brown mucky silt loam, moderately high saturated hydraulic conductivity

2Cjff—12 to 21 inches; black permanently frozen very channery silt loam, very low saturated hydraulic conductivity

2Crf—21 to 72 inches; olive brown permanently frozen weathered bedrock, very low saturated hydraulic conductivity

### **Minor Components**

31-Brigadier, less than 15 percent slopes, and similar soils: 2 to 7 percent of the map unit

31-Ester, greater than 45 percent slopes, and similar soils: 0 to 7 percent of the map unit

31-Gilmore and similar soils: 0 to 10 percent of the map unit

31-Manchu and similar soils: 0 to 5 percent of the map unit

31-Saulich and similar soils: 0 to 5 percent of the map unit

### **31BR02—Brigadier-Ester complex, 45 to 70 percent slopes**

*Elevation:* 499 to 2,920 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### **31-Brigadier and similar soils**

*Extent:* 30 to 55 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 45 to 60 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 12 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 3.2 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 6 inches; brown slightly decomposed plant material, high saturated hydraulic conductivity

A—6 to 11 inches; black silt loam, moderately high saturated hydraulic conductivity

Bw—11 to 16 inches; olive brown silt loam, moderately high saturated hydraulic conductivity

2BC—16 to 20 inches; brown very channery sandy loam, high saturated hydraulic conductivity

2Cr—20 to 72 inches; brown weathered bedrock, high saturated hydraulic conductivity

#### **31-Ester and similar soils**

*Extent:* 20 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes

*Slope shape:* linear

*Slope range:* 45 to 70 percent

*Parent material:* mossy organic material over colluvium and/or loess over residuum weathered from schist

*Depth to permafrost:* 7 to 30 inches

*Depth to paralithic bedrock:* 14 to 39 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—4 inches

*Ponding:* none

*Available water capacity (approximate):* 2.1 inches

*Vegetation:* black spruce woodland

*Representative Profile:*

Oi—0 to 9 inches; dark reddish brown peat, high saturated hydraulic conductivity

ABjj—9 to 12 inches; black mucky silt loam, moderately high saturated hydraulic conductivity

2Cjif—12 to 21 inches; olive brown permanently frozen very channery silt loam, very low saturated hydraulic conductivity

2Crf—21 to 72 inches; dark reddish brown permanently frozen weathered bedrock, very low saturated hydraulic conductivity

### ***Minor Components***

31-Brigadier, less than 45 percent slopes, and similar soils: 2 to 7 percent of the map unit

31-Ester, less than 45 percent slopes, and similar soils: 0 to 7 percent of the map unit

31-Manchu and similar soils: 0 to 5 percent of the map unit

31-Gilmore and similar soils: 0 to 10 percent of the map unit

## **31BR08—Brigadier and Manchu silt loams, 3 to 15 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Brigadier and similar soils***

*Extent:* 10 to 90 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 3 to 15 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 12 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 3.2 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 6 inches; black slightly decomposed plant material, high saturated hydraulic conductivity

A—6 to 11 inches; brown silt loam, moderately high saturated hydraulic conductivity

Bw—11 to 16 inches; olive brown silt loam, moderately high saturated hydraulic conductivity

2BC—16 to 20 inches; black very channery sandy loam, high saturated hydraulic conductivity

2Cr—20 to 72 inches; black weathered bedrock, high saturated hydraulic conductivity

### **31-Manchu and similar soils**

*Extent:* 10 to 90 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 3 to 15 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 24 to 47 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—7 to more than 72 inches; June-Sept.—14 to more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.7 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 7 inches; very dark brown slightly decomposed plant material, high saturated hydraulic conductivity

A—7 to 9 inches; black silt loam, moderately high saturated hydraulic conductivity

Bw—9 to 28 inches; dark yellowish brown and dark gray silt loam, moderately high saturated hydraulic conductivity

2BC—28 to 39 inches; dark yellowish brown very channery silt loam, high saturated hydraulic conductivity

2Cr—39 to 72 inches; very dark brown weathered bedrock, high saturated hydraulic conductivity

### **Minor Components**

31-Gilmore and similar soils: 0 to 15 percent of the map unit

31-Steese and similar soils: 0 to 10 percent of the map unit

### **31BR09—Brigadier and Manchu silt loams, 3 to 45 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### **31-Brigadier and similar soils**

*Extent:* 40 to 90 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 15 to 45 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 12 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none



*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 3.2 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 6 inches; brown slightly decomposed plant material, high saturated hydraulic conductivity

A—6 to 11 inches; black silt loam, moderately high saturated hydraulic conductivity

Bw—11 to 16 inches; olive brown silt loam, moderately high saturated hydraulic conductivity

2BC—16 to 20 inches; brown very channery sandy loam, high saturated hydraulic conductivity

2Cr—20 to 72 inches; brown weathered bedrock, high saturated hydraulic conductivity

### **31-Manchu and similar soils**

*Extent:* 0 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 3 to 15 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 24 to 47 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—7 to more than 72 inches; June-Sept.—14 to more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.7 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 7 inches; dark yellowish brown and dark gray slightly decomposed plant material, high saturated hydraulic conductivity

A—7 to 9 inches; dark yellowish brown silt loam, moderately high saturated hydraulic conductivity

Bw—9 to 28 inches; black silt loam, moderately high saturated hydraulic conductivity

2BC—28 to 39 inches; very dark brown very channery silt loam, high saturated hydraulic conductivity

2Cr—39 to 72 inches; dark yellowish brown and dark gray weathered bedrock, high saturated hydraulic conductivity

### **Minor Components**

31-Gilmore and similar soils: 0 to 15 percent of the map unit

31-Steese and similar soils: 0 to 10 percent of the map unit

## **31CH04—Chatanika-Goldstream complex, 0 to 5 percent slopes**

*Elevation:* 328 to 1,998 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### **31-Chatanika and similar soils**

*Extent:* 40 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* toeslopes, footslopes

*Slope shape:* linear, concave

*Slope range:* 0 to 5 percent

*Parent material:* coarse-silty colluvium

*Depth to permafrost:* 12 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 4.3 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 4 inches; very dark grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—4 to 6 inches; grayish brown mottled mucky silt loam, moderately high saturated hydraulic conductivity

C/Ag—6 to 21 inches; very dark grayish brown silt loam, moderately high saturated hydraulic conductivity

Cgf—21 to 72 inches; very dark grayish brown permanently frozen silt loam, very low saturated hydraulic conductivity

### **31-Goldstream and similar soils**

*Extent:* 25 to 50 percent of the map unit

*Landform:* valley floors

*Slope shape:* linear

*Slope range:* 0 to 5 percent

*Parent material:* organic material over loess

*Depth to permafrost:* 14 to 24 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—0 to 8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 3.6 inches

*Vegetation:* black spruce woodland

*Representative Profile:*

Oe—0 to 9 inches; very dark grayish brown mucky peat, high saturated hydraulic conductivity

A—9 to 12 inches; gray mucky silt loam, moderately high saturated hydraulic conductivity

Bjgg—12 to 20 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

Cgf—20 to 72 inches; very dark grayish brown permanently frozen material, very low saturated hydraulic conductivity

### ***Minor Components***

31-Chatanika, greater than 5 percent slopes, and similar soils: 0 to 7 percent of the map unit

31-Histels and similar soils: 0 to 7 percent of the map unit

31-Minto and similar soils: 0 to 7 percent of the map unit

31-Saulich and similar soils: 0 to 7 percent of the map unit

31-Water: 0 to 5 percent of the map unit

## **31ES01—Ester peat, 20 to 45 percent slopes**

*Elevation:* 499 to 2,920 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Ester and similar soils***

*Extent:* 65 to 75 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes

*Slope shape:* linear

*Slope range:* 20 to 45 percent

*Parent material:* mossy organic material over colluvium and/or loess over residuum weathered from schist

*Depth to permafrost:* 7 to 30 inches

*Depth to paralithic bedrock:* 14 to 39 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—4 inches

*Ponding:* none

*Available water capacity (approximate):* 2.1 inches

*Vegetation:* black spruce woodland

*Representative Profile:*

Oi—0 to 9 inches; olive brown peat, high saturated hydraulic conductivity

ABjj—9 to 12 inches; dark reddish brown mucky silt loam, moderately high saturated hydraulic conductivity

2Cjff—12 to 21 inches; black permanently frozen very channery silt loam, very low saturated hydraulic conductivity

2Crf—21 to 72 inches; olive brown permanently frozen weathered bedrock, very low saturated hydraulic conductivity

### ***Minor Components***

31-Brigadier and similar soils: 0 to 10 percent of the map unit

31-Ester, greater than 45 percent slopes, and similar soils: 0 to 5 percent of the map unit

31-Ester, less than 20 percent slopes, and similar soils: 0 to 10 percent of the map unit

31-Saulich and similar soils: 0 to 5 percent of the map unit

31-Steese and similar soils: 0 to 5 percent of the map unit

### **31FA02—Fairbanks silt loam, 7 to 12 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### **31-Fairbanks and similar soils**

*Extent:* 75 to 90 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes

*Slope shape:* convex, linear

*Slope range:* 7 to 12 percent

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 3 inches; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A,Bw—3 to 30 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

C—30 to 72 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

#### **Minor Components**

31-Fairbanks, greater than 12 percent slopes, and similar soils: 0 to 15 percent of the map unit

31-Fairbanks, less than 7 percent slopes, and similar soils: 0 to 5 percent of the map unit

31-Minto and similar soils: 0 to 10 percent of the map unit

31-Steese and similar soils: 2 to 10 percent of the map unit

### **31FA03—Fairbanks silt loam, 12 to 20 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### **31-Fairbanks and similar soils**

*Extent:* 65 to 80 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes

*Slope shape:* convex, linear

*Slope range:* 12 to 20 percent

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April–Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 3 inches; grayish brown or light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A,Bw—3 to 30 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

C—30 to 72 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

31-Fairbanks, greater than 20 percent slopes, and similar soils: 0 to 15 percent of the map unit

31-Fairbanks, less than 12 percent slopes, and similar soils: 0 to 15 percent of the map unit

31-Minto and similar soils: 0 to 6 percent of the map unit

31-Steese and similar soils: 0 to 5 percent of the map unit

## **31FA04—Fairbanks silt loam, 20 to 30 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Fairbanks and similar soils***

*Extent:* 75 to 90 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes

*Slope shape:* convex, linear

*Slope range:* 20 to 30 percent

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April–Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 3 inches; grayish brown or light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A,Bw—3 to 30 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

C—30 to 72 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

31-Fairbanks, less than 20 percent slopes, and similar soils: 0 to 15 percent of the map unit

31-Fairbanks, greater than 30 percent slopes, and similar soils: 0 to 5 percent of the map unit

31-Steese and similar soils: 0 to 10 percent of the map unit

## **31FA05—Fairbanks silt loam, 30 to 45 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Fairbanks and similar soils***

*Extent:* 80 to 90 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes

*Slope shape:* linear, convex

*Slope range:* 30 to 45 percent

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 3 inches; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A,Bw—3 to 30 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

C—30 to 72 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

31-Fairbanks, greater than 45 percent slopes, and similar soils: 0 to 15 percent of the map unit

31-Fairbanks, less than 30 percent slopes, and similar soils: 0 to 5 percent of the map unit

31-Steese and similar soils: 0 to 15 percent of the map unit

**31FA07—Fairbanks silt loams, gullied, 7 to 70 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

**31-Fairbanks, gullied, and similar soils**

*Extent:* 55 to 65 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes

*Slope shape:* linear, convex

*Slope range:* 7 to 15 percent

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 3 inches; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A,Bw—3 to 30 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

C—30 to 72 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

**31-Fairbanks, gullied, steep, and similar soils**

*Extent:* 25 to 45 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes

*Slope shape:* convex, linear

*Slope range:* 30 to 70 percent

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 3 inches; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A,Bw—3 to 30 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

C—30 to 72 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

31-Minto and similar soils: 0 to 10 percent of the map unit

31-Steese and similar soils: 0 to 10 percent of the map unit

31-Typic Cryaquents and similar soils: 0 to 3 percent of the map unit

### **31FA11—Fairbanks-Steese complex, 20 to 30 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### **31-Fairbanks and similar soils**

*Extent:* 30 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes

*Slope shape:* convex, linear

*Slope range:* 20 to 30 percent

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 3 inches; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A,Bw—3 to 30 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

C—30 to 72 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

#### **31-Steese and similar soils**

*Extent:* 15 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 20 to 30 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 20 to 40 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Vegetation:* paper birch, white spruce, and quaking aspen forest



*Representative Profile:*

- Oi—0 to 2 inches; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity
- A—2 to 5 inches; dark brown silt loam, moderately high saturated hydraulic conductivity
- Bw—5 to 27 inches; brown silt loam, moderately high saturated hydraulic conductivity
- 2C—27 to 33 inches; light olive brown very channery silt loam, high saturated hydraulic conductivity
- 2Cr—33 to 72 inches; light olive brown weathered bedrock, high saturated hydraulic conductivity

**Minor Components**

- 31-Fairbanks, less than 20 percent slopes, and similar soils: 3 to 15 percent of the map unit
- 31-Gilmore and similar soils: 0 to 5 percent of the map unit
- 31-Steese, greater than 30 percent slopes, and similar soils: 3 to 10 percent of the map unit
- 31-Steese, less than 20 percent slopes, and similar soils: 3 to 10 percent of the map unit

**31GD01—Goldstream peat, 0 to 3 percent**

*Elevation:* 328 to 1,690 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

**31-Goldstream and similar soils**

*Extent:* 70 to 85 percent of the map unit

*Landform:* valley floors

*Slope shape:* linear

*Slope range:* 0 to 3 percent

*Parent material:* organic material over loess

*Depth to permafrost:* 14 to 24 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—0 to 8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 3.6 inches

*Vegetation:* black spruce woodland

*Representative Profile:*

- Oe—0 to 9 inches; very dark grayish brown mucky peat, high saturated hydraulic conductivity
- A—9 to 12 inches; gray mucky silt loam, moderately high saturated hydraulic conductivity
- Bjig—12 to 20 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

Cgf—20 to 72 inches; very dark grayish brown permanently frozen material, very low saturated hydraulic conductivity

### ***Minor Components***

31-Chatanika and similar soils: 2 to 7 percent of the map unit

31-Histels and similar soils: 0 to 5 percent of the map unit

31-Saulich and similar soils: 0 to 5 percent of the map unit

31-Goldstream, greater than 3 percent slopes, and similar soils: 0 to 5 percent of the map unit

31-Happy and similar soils: 0 to 5 percent of the map unit

31-Typic Cryaquents and similar soils: 0 to 5 percent of the map unit

## **31GD02—Goldstream peat, 3 to 7 percent slopes**

*Elevation:* 328 to 1,998 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Goldstream and similar soils***

*Extent:* 70 to 85 percent of the map unit

*Landform:* valley floors

*Slope shape:* linear

*Slope range:* 3 to 7 percent

*Parent material:* organic material over loess

*Depth to permafrost:* 14 to 24 inches

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—0 to 8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 3.6 inches

*Vegetation:* black spruce woodland

*Representative Profile:*

Oe—0 to 9 inches; gray mucky peat, high saturated hydraulic conductivity

A—9 to 12 inches; dark brown mucky silt loam, moderately high saturated hydraulic conductivity

Bjg—12 to 20 inches; very dark grayish brown silt loam, moderately high saturated hydraulic conductivity

Cgf—20 to 72 inches; gray permanently frozen material, very low saturated hydraulic conductivity

### ***Minor Components***

31-Chatanika and similar soils: 0 to 15 percent of the map unit

31-Histels and similar soils: 0 to 7 percent of the map unit

31-Minto and similar soils: 0 to 5 percent of the map unit

31-Goldstream, less than 3 percent slopes, and similar soils: 0 to 5 percent of the map unit

31-Saulich and similar soils: 0 to 5 percent of the map unit

31-Typic Cryaquents and similar soils: 0 to 5 percent of the map unit

### **31GD03—Goldstream-Histels complex**

*Elevation:* 328 to 1,690 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### **31-Goldstream and similar soils**

*Extent:* 50 to 72 percent of the map unit

*Landform:* valley floors

*Slope shape:* linear

*Slope range:* 0 to 2 percent

*Parent material:* organic material over loess

*Depth to permafrost:* 14 to 24 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—0 to 8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 3.6 inches

*Vegetation:* black spruce woodland

*Representative Profile:*

Oe—0 to 9 inches; gray mucky peat, high saturated hydraulic conductivity

A—9 to 12 inches; very dark grayish brown mucky silt loam, moderately high saturated hydraulic conductivity

Bjtg—12 to 20 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

Cgf—20 to 72 inches; gray permanently frozen material, very low saturated hydraulic conductivity

#### **31-Histels and similar soils**

*Extent:* 15 to 40 percent of the map unit

*Landform:* depressions on terraces, flats on terraces

*Slope shape:* concave, linear

*Slope range:* 0 to 1 percent

*Parent material:* organic material over alluvium and/or loess

*Depth to permafrost:* 24 to 31 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—0 inches

*Ponding:* frequent

*Available water capacity (approximate):* 10.7 inches

*Vegetation:* black spruce woodland

*Representative Profile:*

Oi—0 to 19 inches; peat, moderately high saturated hydraulic conductivity

- Bjj—19 to 25 inches; very fine sandy loam, moderately high saturated hydraulic conductivity  
 Bjjf—25 to 35 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity  
 Cf—35 to 72 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### ***Minor Components***

- 31-Chatanika and similar soils: 3 to 12 percent of the map unit  
 31-Terric Cryofibrists and similar soils: 2 to 7 percent of the map unit

## **31GL02—Gilmore silt loam, 7 to 12 percent slopes**

*Elevation:* 499 to 2,799 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Frost-free period:* 80 to 120 days

### ***31-Gilmore and similar soils***

*Extent:* 65 to 75 percent of the map unit  
*Landform:* hills  
*Position on slope:* backslopes, summits  
*Slope shape:* linear, convex  
*Slope range:* 7 to 12 percent  
*Parent material:* loess over residuum weathered from schist  
*Depth to paralithic bedrock:* 13 to 24 inches  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 72 inches  
*Ponding:* none  
*Available water capacity (approximate):* 2.9 inches  
*Vegetation:* black spruce, paper birch, quaking aspen, and white spruce forest  
*Representative Profile:*  
 Oi—0 to 3 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity  
 A—3 to 6 inches; yellowish brown silt loam, moderately high saturated hydraulic conductivity  
 Bw—6 to 12 inches; olive brown silt loam, moderately high saturated hydraulic conductivity  
 2BC—12 to 19 inches; dark brown extremely channery silt loam, high saturated hydraulic conductivity  
 2Cr—19 to 72 inches; dark brown weathered bedrock, high saturated hydraulic conductivity

### ***Minor Components***

- 31-Gilmore, greater than 12 percent slopes, and similar soils: 5 to 15 percent of the map unit  
 31-Gilmore, less than 7 percent slopes, and similar soils: 5 to 10 percent of the map unit

31-Steese and similar soils: 5 to 10 percent of the map unit

### **31GL03—Gilmore silt loam, 12 to 20 percent slopes**

*Elevation:* 499 to 2,920 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### **31-Gilmore and similar soils**

*Extent:* 70 to 80 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 12 to 20 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 13 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 2.9 inches

*Vegetation:* black spruce, paper birch, quaking aspen, and white spruce forest

*Representative Profile:*

Oi—0 to 3 inches; olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—3 to 6 inches; yellowish brown silt loam, moderately high saturated hydraulic conductivity

Bw—6 to 12 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

2BC—12 to 19 inches; olive brown extremely channery silt loam, high saturated hydraulic conductivity

2Cr—19 to 72 inches; olive brown weathered bedrock, high saturated hydraulic conductivity

#### **Minor Components**

31-Gilmore, greater than 20 percent slopes, and similar soils: 10 to 15 percent of the map unit

31-Gilmore, less than 12 percent slopes, and similar soils: 5 to 12 percent of the map unit

31-Steese and similar soils: 5 to 10 percent of the map unit

31-Ester and similar soils: 0 to 5 percent of the map unit

31-Brigadier and similar soils: 0 to 5 percent of the map unit

### **31GL04—Gilmore silt loam, 20 to 30 percent slopes**

*Elevation:* 499 to 2,920 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### **31-Gilmore and similar soils**

*Extent:* 65 to 80 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 20 to 30 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 13 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 2.9 inches

*Vegetation:* black spruce, paper birch, quaking aspen, and white spruce forest

*Representative Profile:*

Oi—0 to 3 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity

A—3 to 6 inches; yellowish brown silt loam, moderately high saturated hydraulic conductivity

Bw—6 to 12 inches; olive brown silt loam, moderately high saturated hydraulic conductivity

2BC—12 to 19 inches; dark brown extremely channery silt loam, high saturated hydraulic conductivity

2Cr—19 to 72 inches; dark brown weathered bedrock, high saturated hydraulic conductivity

### **Minor Components**

31-Gilmore, less than 20 percent slopes, and similar soils: 5 to 15 percent of the map unit

31-Gilmore, greater than 30 percent slopes, and similar soils: 0 to 5 percent of the map unit

31-Steese and similar soils: 5 to 10 percent of the map unit

31-Ester and similar soils: 0 to 5 percent of the map unit

31-Brigadier and similar soils: 0 to 5 percent of the map unit

### **31GL05—Gilmore silt loam, 30 to 45 percent slopes**

*Elevation:* 499 to 2,920 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### **31-Gilmore and similar soils**

*Extent:* 80 to 90 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 30 to 45 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 13 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 2.9 inches

*Vegetation:* black spruce, paper birch, quaking aspen, and white spruce forest

*Representative Profile:*

Oi—0 to 3 inches; yellowish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—3 to 6 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

Bw—6 to 12 inches; olive brown silt loam, moderately high saturated hydraulic conductivity

2BC—12 to 19 inches; yellowish brown extremely channery silt loam, high saturated hydraulic conductivity

2Cr—19 to 72 inches; yellowish brown weathered bedrock, high saturated hydraulic conductivity

### ***Minor Components***

31-Gilmore, less than 30 percent slopes, and similar soils: 5 to 10 percent of the map unit

31-Ester and similar soils: 0 to 5 percent of the map unit

31-Steese and similar soils: 3 to 10 percent of the map unit

31-Brigadier and similar soils: 0 to 5 percent of the map unit

31-Rock outcrop: 0 to 5 percent of the map unit

## **31GL06—Gilmore silt loam, 45 to 70 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Gilmore and similar soils***

*Extent:* 80 to 90 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 45 to 70 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 13 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 2.9 inches

*Vegetation:* black spruce, paper birch, quaking aspen, and white spruce forest

*Representative Profile:*

Oi—0 to 3 inches; yellowish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—3 to 6 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

Bw—6 to 12 inches; olive brown silt loam, moderately high saturated hydraulic conductivity

2BC—12 to 19 inches; yellowish brown extremely channery silt loam, high saturated hydraulic conductivity

2Cr—19 to 72 inches; yellowish brown weathered bedrock, high saturated hydraulic conductivity

### ***Minor Components***

31-Ester and similar soils: 0 to 10 percent of the map unit

31-Gilmore, less than 45 percent slopes, and similar soils: 0 to 10 percent of the map unit

31-Steese and similar soils: 0 to 10 percent of the map unit

31-Rock outcrop: 0 to 5 percent of the map unit

## **31HA01—Happy silt loam, 1 to 7 percent slopes**

*Elevation:* 328 to 1,690 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Happy and similar soils***

*Extent:* 70 to 85 percent of the map unit

*Landform:* natural levees on flood plains

*Slope shape:* linear

*Slope range:* 1 to 7 percent

*Parent material:* alluvium

*Depth to permafrost:* 23 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* negligible

*Drainage class:* somewhat poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April-May—0 to 16 inches; June-Sept.—28 inches

*Ponding:* frequent

*Available water capacity (approximate):* 8.1 inches

*Representative Profile:*

Oe—0 to 2 inches; moderately decomposed plant material, moderately high saturated hydraulic conductivity

C/O—2 to 5 inches; stratified silt loam to moderately decomposed plant material, moderately high saturated hydraulic conductivity

C—5 to 20 inches; silt loam, moderately high saturated hydraulic conductivity

C/O'—20 to 32 inches; stratified silt loam to moderately decomposed plant material, moderately high saturated hydraulic conductivity

Cf—32 to 72 inches; permanently frozen material, very low saturated hydraulic conductivity



### ***Minor Components***

31-Goldstream and similar soils: 0 to 5 percent of the map unit  
 31-Histels and similar soils: 0 to 7 percent of the map unit  
 31-Water: 2 to 8 percent of the map unit  
 31-Aquic Cryofluvents and similar soils: 0 to 5 percent of the map unit  
 31-Chatanika and similar soils: 0 to 5 percent of the map unit

### **31MC01—McCloud silt loam, 12 to 20 percent slopes**

*Elevation:* 574 to 2,500 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Frost-free period:* 80 to 120 days

#### ***31-McCloud and similar soils***

*Extent:* 75 to 95 percent of the map unit  
*Landform:* hills  
*Position on slope:* backslopes, summits  
*Slope shape:* linear, convex  
*Slope range:* 12 to 20 percent  
*Parent material:* loess over residuum weathered from granite  
*Depth to paralithic bedrock:* 21 to 35 inches  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* very high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-Sept.—more than 72 inches  
*Ponding:* none  
*Available water capacity (approximate):* 6.4 inches  
*Vegetation:* black spruce, paper birch, quaking aspen and white spruce forest  
*Representative Profile:*  
     Oi—0 to 3 inches; olive brown peat, high saturated hydraulic conductivity  
     Bw—3 to 20 inches; dark yellowish brown silt loam, moderately high saturated hydraulic conductivity  
     C—20 to 29 inches; dark brown silt loam, moderately high saturated hydraulic conductivity  
     2Cr—29 to 72 inches; olive brown weathered bedrock, very low saturated hydraulic conductivity

### ***Minor Components***

31-Angel and similar soils: 5 to 15 percent of the map unit  
 31-McCloud, greater than 20 percent slopes, and similar soils: 0 to 5 percent of the map unit  
 31-McCloud, less than 7 percent slopes, and similar soils: 0 to 5 percent of the map unit

### **31MC02—McCloud silt loam, 20 to 30 percent slopes**

*Elevation:* 574 to 2,500 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### **31-McCloud and similar soils**

*Extent:* 75 to 95 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 20 to 30 percent

*Parent material:* loess over residuum weathered from granite

*Depth to paralithic bedrock:* 21 to 35 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.4 inches

*Vegetation:* black spruce, paper birch, quaking aspen and white spruce forest

*Representative Profile:*

Oi—0 to 3 inches; dark brown peat, high saturated hydraulic conductivity

Bw—3 to 20 inches; olive brown silt loam, moderately high saturated hydraulic conductivity

C—20 to 29 inches; dark yellowish brown silt loam, moderately high saturated hydraulic conductivity

2Cr—29 to 72 inches; dark brown weathered bedrock, very low saturated hydraulic conductivity

### **Minor Components**

31-Angel and similar soils: 5 to 15 percent of the map unit

31-McCloud, less than 20 percent slopes, and similar soils: 0 to 5 percent of the map unit

31-McCloud, greater than 30 percent slopes, and similar soils: 0 to 5 percent of the map unit

### **31MC03—McCloud-Fairbanks complex, 15 to 40 percent slopes**

*Elevation:* 820 to 1,394 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### **31-McCloud and similar soils**

*Extent:* 30 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits, footslopes, toeslopes

*Slope shape:* linear, convex

*Slope range:* 20 to 30 percent

*Parent material:* loess over residuum weathered from granite

*Depth to paralithic bedrock:* 21 to 35 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.4 inches

*Vegetation:* black spruce, paper birch, quaking aspen and white spruce forest

*Representative Profile:*

Oi—0 to 3 inches; dark brown peat, high saturated hydraulic conductivity

Bw—3 to 20 inches; olive brown silt loam, moderately high saturated hydraulic conductivity

C—20 to 29 inches; dark yellowish brown silt loam, moderately high saturated hydraulic conductivity

2Cr—29 to 72 inches; dark brown weathered bedrock, very low saturated hydraulic conductivity

### **31-Fairbanks and similar soils**

*Extent:* 40 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, toeslopes, footslopes, summits

*Slope shape:* linear

*Slope range:* 15 to 40 percent

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 3 inches; grayish brown or light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A,Bw—3 to 30 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

C—30 to 72 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

31-Minto and similar soils: 0 to 10 percent of the map unit

### **31MN01—Minto silt loam, 0 to 3 percent slopes**

*Elevation:* 328 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### **31-Minto and similar soils**

*Extent:* 75 to 85 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear, concave, convex

*Slope range:* 0 to 3 percent

*Parent material:* coarse-silty colluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—4 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.6 inches

*Vegetation:* paper birch and white spruce forest

*Representative Profile:*

Oi—0 to 5 inches; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—5 to 9 inches; very dark grayish brown silt loam, moderately high saturated hydraulic conductivity

Bw—9 to 16 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

C—16 to 72 inches; grayish brown silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

31-Chatanika and similar soils: 1 to 12 percent of the map unit

31-Fairbanks and similar soils: 0 to 10 percent of the map unit

31-Minto, greater than 3 percent slopes, and similar soils: 2 to 10 percent of the map unit

### **31MN02—Minto silt loam, 3 to 7 percent slopes**

*Elevation:* 328 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Minto and similar soils***

*Extent:* 75 to 85 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear, concave, convex

*Slope range:* 3 to 7 percent

*Parent material:* coarse-silty colluvium

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—4 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.6 inches

*Vegetation:* paper birch and white spruce forest

*Representative Profile:*

Oi—0 to 5 inches; very dark grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—5 to 9 inches; grayish brown silt loam, moderately high saturated hydraulic conductivity

Bw—9 to 16 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

C—16 to 72 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

31-Chatanika and similar soils: 3 to 10 percent of the map unit

31-Fairbanks and similar soils: 0 to 10 percent of the map unit

31-Minto, greater than 7 percent slopes, and similar soils: 5 to 10 percent of the map unit

31-Minto, less than 3 percent slopes, and similar soils: 0 to 5 percent of the map unit

### **31MN03—Minto silt loam, 7 to 12 percent**

*Elevation:* 328 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### ***31-Minto and similar soils***

*Extent:* 60 to 70 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear, concave, convex

*Slope range:* 7 to 12 percent

*Parent material:* coarse-silty colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—4 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.6 inches

*Vegetation:* paper birch and white spruce forest

*Representative Profile:*

Oi—0 to 5 inches; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—5 to 9 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

Bw—9 to 16 inches; grayish brown silt loam, moderately high saturated hydraulic conductivity

C—16 to 72 inches; very dark grayish brown silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

31-Minto, greater than 12 percent slopes, and similar soils: 5 to 15 percent of the map unit

31-Minto, less than 7 percent slopes, and similar soils: 5 to 15 percent of the map unit

31-Chatanika and similar soils: 2 to 10 percent of the map unit

31-Fairbanks and similar soils: 5 to 15 percent of the map unit

31-Saulich and similar soils: 0 to 5 percent of the map unit

### **31MN04—Minto silt loam, 12 to 20 percent slopes**

*Elevation:* 328 to 1,998 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### ***31-Minto and similar soils***

*Extent:* 70 to 85 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear, concave, convex

*Slope range:* 12 to 20 percent

*Parent material:* coarse-silty colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—4 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.6 inches

*Vegetation:* paper birch and white spruce forest

*Representative Profile:*

Oi—0 to 5 inches; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—5 to 9 inches; grayish brown silt loam, moderately high saturated hydraulic conductivity

Bw—9 to 16 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

C—16 to 72 inches; very dark grayish brown silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

31-Minto, less than 12 percent slopes, and similar soils: 5 to 15 percent of the map unit

31-Chatanika and similar soils: 1 to 10 percent of the map unit

31-Typic Cryaquents and similar soils: 0 to 5 percent of the map unit

### **31MN05—Minto-Chatanika complex, 0 to 3 percent slopes**

*Elevation:* 328 to 1,998 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### **31-Minto and similar soils**

*Extent:* 35 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear, concave, convex

*Slope range:* 0 to 3 percent

*Parent material:* coarse-silty colluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—4 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.6 inches

*Vegetation:* paper birch and white spruce forest

*Representative Profile:*

Oi—0 to 5 inches; very dark grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—5 to 9 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

Bw—9 to 16 inches; grayish brown silt loam, moderately high saturated hydraulic conductivity

C—16 to 72 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

### **31-Chatanika and similar soils**

*Extent:* 35 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* toeslopes, footslopes

*Slope shape:* linear, concave

*Slope range:* 0 to 3 percent

*Parent material:* coarse-silty colluvium

*Depth to permafrost:* 12 to 39 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 4.3 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 4 inches; very dark grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—4 to 6 inches; grayish brown mottled mucky silt loam, moderately high saturated hydraulic conductivity

C/Ag—6 to 21 inches; very dark grayish brown silt loam, moderately high saturated hydraulic conductivity

Cgf—21 to 72 inches; very dark grayish brown permanently frozen silt loam, very low saturated hydraulic conductivity

### ***Minor Components***

31-Chatanika, greater than 3 percent slopes, and similar soils: 0 to 5 percent of the map unit

31-Goldstream and similar soils: 0 to 10 percent of the map unit

31-Minto, greater than 3 percent slopes, and similar soils: 2 to 10 percent of the map unit

## **31MN06—Minto-Chatanika complex, 3 to 7 percent slopes**

*Elevation:* 328 to 1,998 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Minto and similar soils***

*Extent:* 30 to 40 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear, concave, convex

*Slope range:* 3 to 7 percent

*Parent material:* coarse-silty colluvium

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—4 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.6 inches

*Vegetation:* paper birch and white spruce forest

*Representative Profile:*

Oi—0 to 5 inches; grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—5 to 9 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

Bw—9 to 16 inches; very dark grayish brown silt loam, moderately high saturated hydraulic conductivity

C—16 to 72 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

### ***31-Chatanika and similar soils***

*Extent:* 30 to 40 percent of the map unit

*Landform:* hills

*Position on slope:* toeslopes, footslopes

*Slope shape:* linear, concave

*Slope range:* 3 to 7 percent

*Parent material:* coarse-silty colluvium

*Depth to permafrost:* 12 to 39 inches



*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* negligible

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 4.3 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 4 inches; very dark grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—4 to 6 inches; grayish brown mottled mucky silt loam, moderately high saturated hydraulic conductivity

C/Ag—6 to 21 inches; very dark grayish brown silt loam, moderately high saturated hydraulic conductivity

Cgf—21 to 72 inches; very dark grayish brown permanently frozen silt loam, very low saturated hydraulic conductivity

### ***Minor Components***

31-Minto, greater than 7 percent slopes, and similar soils: 5 to 10 percent of the map unit

31-Minto, less than 3 percent slopes, and similar soils: 5 to 10 percent of the map unit

31-Saulich and similar soils: 0 to 10 percent of the map unit

31-Chatanika, greater than 7 percent slopes, and similar soils: 0 to 5 percent of the map unit

31-Chatanika, less than 3 percent slopes, and similar soils: 0 to 5 percent of the map unit

31-Goldstream and similar soils: 0 to 5 percent of the map unit

### **31MN07—Minto-Chatanika complex, 7 to 12 percent slopes**

*Elevation:* 328 to 1,998 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### ***31-Minto and similar soils***

*Extent:* 40 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear, concave, convex

*Slope range:* 7 to 12 percent

*Parent material:* coarse-silty colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—4 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.6 inches

*Vegetation:* paper birch and white spruce forest

*Representative Profile:*

Oi—0 to 5 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity

A—5 to 9 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

Bw—9 to 16 inches; very dark grayish brown silt loam, moderately high saturated hydraulic conductivity

C—16 to 72 inches; grayish brown silt loam, moderately high saturated hydraulic conductivity

**31-Chatanika and similar soils**

*Extent:* 40 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* toeslopes, footslopes

*Slope shape:* linear, concave

*Slope range:* 7 to 12 percent

*Parent material:* coarse-silty colluvium

*Depth to permafrost:* 12 to 39 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight

*Runoff:* negligible

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 4.3 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 4 inches; grayish brown mottled slightly decomposed plant material, high saturated hydraulic conductivity

A—4 to 6 inches; very dark grayish brown mucky silt loam, moderately high saturated hydraulic conductivity

C/Ag—6 to 21 inches; grayish brown mottled silt loam, moderately high saturated hydraulic conductivity

Cgf—21 to 72 inches; grayish brown mottled permanently frozen silt loam, very low saturated hydraulic conductivity

**Minor Components**

31-Chatanika, less than 7 percent slopes, and similar soils: 2 to 10 percent of the map unit

31-Minto, greater than 12 percent slopes, and similar soils: 2 to 10 percent of the map unit

31-Minto, less than 7 percent slopes, and similar soils: 2 to 10 percent of the map unit

**31RS01—Rosie silt loam, 15 to 90 percent slopes**

*Elevation:* 344 to 1,168 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

**31-Rosie and similar soils**

*Extent:* 80 to 100 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* linear, convex

*Slope range:* 15 to 90 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 14 to 37 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* somewhat excessively drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 5 inches

*Representative Profile:*

A—0 to 12 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

Bk1—12 to 22 inches; olive brown channery silt loam, moderately high saturated hydraulic conductivity

Bk2—22 to 28 inches; yellowish brown very channery very fine sandy loam, high saturated hydraulic conductivity

2Cr—28 to 72 inches; dark brown weathered bedrock, high saturated hydraulic conductivity

**Minor Components**

31-Rock outcrop: 0 to 20 percent of the map unit

**31SA06—Saulich-Minto complex, 7 to 12 percent slopes**

*Elevation:* 328 to 1,998 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

**31-Saulich and similar soils**

*Extent:* 30 to 45 percent of the map unit

*Landform:* hills

*Position on slope:* toeslopes, footslopes

*Slope shape:* linear, concave

*Slope range:* 7 to 12 percent

*Parent material:* coarse-silty colluvium

*Depth to permafrost:* 14 to 24 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 3.6 inches

*Vegetation:* black spruce forest with low shrubs and moss

*Representative Profile:*

Oi—0 to 16 inches; black and dark brown peat, high saturated hydraulic conductivity

Bg/A—16 to 21 inches; very dark brown mucky silt loam, moderately high saturated hydraulic conductivity

Cgf—21 to 72 inches; black and dark brown permanently frozen silt loam, very low saturated hydraulic conductivity

**31-Minto and similar soils**

*Extent:* 30 to 45 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear, concave, convex

*Slope range:* 7 to 12 percent

*Parent material:* coarse-silty colluvium

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—4 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.6 inches

*Vegetation:* paper birch and white spruce forest

*Representative Profile:*

Oi—0 to 5 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity

A—5 to 9 inches; very dark grayish brown silt loam, moderately high saturated hydraulic conductivity

Bw—9 to 16 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

C—16 to 72 inches; grayish brown silt loam, moderately high saturated hydraulic conductivity

**Minor Components**

31-Chatanika and similar soils: 0 to 7 percent of the map unit

31-Minto, greater than 12 percent slopes, and similar soils: 0 to 7 percent of the map unit

31-Minto, less than 7 percent slopes, and similar soils: 0 to 7 percent of the map unit

31-Saulich, greater than 12 percent slopes, and similar soils: 0 to 7 percent of the map unit

31-Saulich, less than 7 percent slopes, and similar soils: 0 to 7 percent of the map unit

31-Goldstream and similar soils: 0 to 5 percent of the map unit

**31SA08—Saulich-Chatanika complex, 3 to 7 percent slopes**

*Elevation:* 640 to 1,706 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

**31-Saulich and similar soils**

*Extent:* 30 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* toeslopes

*Slope shape:* linear

*Slope range:* 3 to 7 percent

*Parent material:* coarse-silty colluvium

*Depth to permafrost:* 14 to 24 inches

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* negligible

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 3.6 inches

*Vegetation:* black spruce forest with low shrubs and moss

*Representative Profile:*

Oi—0 to 16 inches; very dark brown peat, high saturated hydraulic conductivity

Bg/A—16 to 21 inches; black and dark brown mucky silt loam, moderately high saturated hydraulic conductivity

Cgf—21 to 72 inches; very dark brown permanently frozen silt loam, very low saturated hydraulic conductivity

**31-Chatanika and similar soils**

*Extent:* 20 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* toeslopes

*Slope shape:* linear

*Slope range:* 3 to 7 percent

*Parent material:* coarse-silty colluvium

*Depth to permafrost:* 12 to 39 inches

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* negligible

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 inches; June-Sept.—8 inches

*Ponding:* frequent

*Available water capacity (approximate):* 4.3 inches

*Vegetation:* black spruce forest

*Representative Profile:*

Oi—0 to 4 inches; very dark grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—4 to 6 inches; grayish brown mottled mucky silt loam, moderately high saturated hydraulic conductivity

C/Ag—6 to 21 inches; very dark grayish brown silt loam, moderately high saturated hydraulic conductivity

Cgf—21 to 72 inches; very dark grayish brown permanently frozen silt loam, very low saturated hydraulic conductivity

**31-Minto and similar soils**

*Extent:* 5 to 15 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, backslopes

*Slope shape:* linear

*Slope range:* 3 to 7 percent

*Parent material:* coarse-silty colluvium

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—4 to more than 72 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.6 inches

*Vegetation:* paper birch and white spruce forest

*Representative Profile:*

Oi—0 to 5 inches; very dark grayish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—5 to 9 inches; grayish brown silt loam, moderately high saturated hydraulic conductivity

Bw—9 to 16 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

C—16 to 72 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

31-Goldstream and similar soils: 5 to 15 percent of the map unit

## **31SR02—Strelna very fine sandy loam, 12 to 20 percent slopes**

*Elevation:* 958 to 1,821 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Strelna and similar soils***

*Extent:* 70 to 95 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, shoulders, summits

*Slope shape:* linear

*Slope range:* 12 to 20 percent

*Parent material:* loess

*Depth to permafrost:* 18 to 26 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 to 12 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 5.9 inches

*Representative Profile:*

- Oe—0 to 8 inches; moderately decomposed plant material, high saturated hydraulic conductivity
- A—8 to 14 inches; very fine sandy loam, moderately high saturated hydraulic conductivity
- Bjj—14 to 22 inches; very fine sandy loam, moderately high saturated hydraulic conductivity
- Bjff—22 to 24 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity
- Cf—24 to 72 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### ***Minor Components***

- 31-Fairbanks and similar soils: 5 to 15 percent of the map unit
- 31-Minto and similar soils: 0 to 15 percent of the map unit

## **31SR03—Strelna very fine sandy loam, 20 to 50 percent slopes**

- Elevation:* 958 to 1,821 feet
- Mean annual precipitation:* 10 to 14 inches
- Frost-free period:* 80 to 120 days

### ***31-Strelna and similar soils***

- Extent:* 70 to 90 percent of the map unit
- Landform:* hills
- Position on slope:* backslopes, shoulders, summits
- Slope shape:* linear
- Slope range:* 20 to 50 percent
- Parent material:* loess
- Depth to permafrost:* 18 to 26 inches
- Hazard of erosion (organic mat removed):* by water—severe; by wind—severe
- Runoff:* very high
- Drainage class:* moderately well drained
- Flooding:* none
- Depth to high water table (approximate):* April-May—0 to 12 inches; June-Sept.—more than 72 inches
- Ponding:* none
- Available water capacity (approximate):* 5.9 inches
- Representative Profile:*
  - Oe—0 to 8 inches; moderately decomposed plant material, high saturated hydraulic conductivity
  - A—8 to 14 inches; very fine sandy loam, moderately high saturated hydraulic conductivity
  - Bjj—14 to 22 inches; very fine sandy loam, moderately high saturated hydraulic conductivity
  - Bjff—22 to 24 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity
  - Cf—24 to 72 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### ***Minor Components***

31-Fairbanks and similar soils: 5 to 15 percent of the map unit

31-Manchu and similar soils: 5 to 15 percent of the map unit

### **31SR04—Strelna very fine sandy loam, 7 to 12 percents slopes**

*Elevation:* 958 to 1,821 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### ***31-Strelna and similar soils***

*Extent:* 70 to 95 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, shoulders, summits

*Slope shape:* linear

*Slope range:* 7 to 12 percent

*Parent material:* loess

*Depth to permafrost:* 18 to 26 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 to 12 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 5.9 inches

*Representative Profile:*

Oe—0 to 8 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—8 to 14 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bjj—14 to 22 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bjff—22 to 24 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

Cf—24 to 72 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

### ***Minor Components***

31-Minto and similar soils: 5 to 15 percent of the map unit

31-Fairbanks and similar soils: 0 to 15 percent of the map unit

### **31SR05—Strelna-Toghotthele complex 10 to 40 percent slopes**

*Elevation:* 958 to 1,821 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days



**31-Strelina and similar soils**

*Extent:* 45 to 80 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, shoulders, summits

*Slope shape:* linear

*Slope range:* 10 to 20 percent

*Parent material:* loess

*Depth to permafrost:* 18 to 26 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* moderately well drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—0 to 12 inches; June-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 5.9 inches

*Representative Profile:*

Oe—0 to 8 inches; moderately decomposed plant material, high saturated hydraulic conductivity

A—8 to 14 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bjj—14 to 22 inches; very fine sandy loam, moderately high saturated hydraulic conductivity

Bjff—22 to 24 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

Cf—24 to 72 inches; permanently frozen very fine sandy loam, very low saturated hydraulic conductivity

**31-Toghotthele and similar soils**

*Extent:* 10 to 45 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, shoulders, summits

*Slope shape:* linear

*Slope range:* 10 to 40 percent

*Parent material:* loess over eolian sands

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 11.9 inches

*Representative Profile:*

Oi—0 to 1 inch; grayish brown or light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—1 to 4 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

Bw, BC—4 to 51 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

2C—51 to 72 inches; grayish brown or light olive brown fine sand, high saturated hydraulic conductivity

### ***Minor Components***

31-Fairbanks and similar soils: 0 to 10 percent of the map unit

### **31ST01—Steese silt loam, 3 to 7 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Steese and similar soils***

*Extent:* 75 to 85 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 3 to 7 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 20 to 40 inches

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Vegetation:* paper birch, white spruce, and quaking aspen forest

*Representative Profile:*

Oi—0 to 2 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity

A—2 to 5 inches; brown silt loam, moderately high saturated hydraulic conductivity

Bw—5 to 27 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

2C—27 to 33 inches; dark brown very channery silt loam, high saturated hydraulic conductivity

2Cr—33 to 72 inches; dark brown weathered bedrock, high saturated hydraulic conductivity

### ***Minor Components***

31-Steese, greater than 7 percent slopes, and similar soils: 2 to 10 percent of the map unit

31-Fairbanks and similar soils: 2 to 10 percent of the map unit

31-Gilmore and similar soils: 2 to 10 percent of the map unit

### **31ST02—Steese silt loam, 7 to 12 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### **31-Steese and similar soils**

*Extent:* 70 to 80 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 7 to 12 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 20 to 40 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Vegetation:* paper birch, white spruce, and quaking aspen forest

*Representative Profile:*

Oi—0 to 2 inches; brown slightly decomposed plant material, high saturated hydraulic conductivity

A—2 to 5 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

Bw—5 to 27 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

2C—27 to 33 inches; brown very channery silt loam, high saturated hydraulic conductivity

2Cr—33 to 72 inches; brown weathered bedrock, high saturated hydraulic conductivity

### **Minor Components**

31-Fairbanks and similar soils: 2 to 10 percent of the map unit

31-Gilmore and similar soils: 2 to 10 percent of the map unit

31-Steese, greater than 12 percent slopes, and similar soils: 2 to 10 percent of the map unit

31-Steese, less than 7 percent slopes, and similar soils: 2 to 10 percent of the map unit

### **31ST03—Steese silt loam, 12 to 20 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### **31-Steese and similar soils**

*Extent:* 60 to 85 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 12 to 20 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 20 to 40 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Vegetation:* paper birch, white spruce, and quaking aspen forest

*Representative Profile:*

Oi—0 to 2 inches; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—2 to 5 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

Bw—5 to 27 inches; brown silt loam, moderately high saturated hydraulic conductivity

2C—27 to 33 inches; light olive brown very channery silt loam, high saturated hydraulic conductivity

2Cr—33 to 72 inches; light olive brown weathered bedrock, high saturated hydraulic conductivity

### ***Minor Components***

31-Fairbanks and similar soils: 3 to 10 percent of the map unit

31-Gilmore and similar soils: 2 to 10 percent of the map unit

31-Steese, less than 12 percent slopes, and similar soils: 2 to 10 percent of the map unit

31-Steese, greater than 20 percent slopes, and similar soils: 2 to 10 percent of the map unit

### **31ST04—Steese silt loam, 20 to 30 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### ***31-Steese and similar soils***

*Extent:* 70 to 85 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 20 to 30 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 20 to 40 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Vegetation:* paper birch, white spruce, and quaking aspen forest

*Representative Profile:*

- Oi—0 to 2 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity
- A—2 to 5 inches; brown silt loam, moderately high saturated hydraulic conductivity
- Bw—5 to 27 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity
- 2C—27 to 33 inches; dark brown very channery silt loam, high saturated hydraulic conductivity
- 2Cr—33 to 72 inches; dark brown weathered bedrock, high saturated hydraulic conductivity

### ***Minor Components***

- 31-Gilmore and similar soils: 2 to 10 percent of the map unit
- 31-Steese, greater than 30 percent slopes, and similar soils: 2 to 10 percent of the map unit
- 31-Steese, less than 20 percent slopes, and similar soils: 2 to 10 percent of the map unit
- 31-Fairbanks and similar soils: 2 to 10 percent of the map unit
- 31-Ester and similar soils: 0 to 5 percent of the map unit

## **31ST05—Steese silt loam, 30 to 45 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Steese and similar soils***

*Extent:* 75 to 95 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 30 to 45 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 20 to 40 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Vegetation:* paper birch, white spruce, and quaking aspen forest

*Representative Profile:*

- Oi—0 to 2 inches; brown slightly decomposed plant material, high saturated hydraulic conductivity
- A—2 to 5 inches; dark brown silt loam, moderately high saturated hydraulic conductivity
- Bw—5 to 27 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity
- 2C—27 to 33 inches; brown very channery silt loam, high saturated hydraulic conductivity

2Cr—33 to 72 inches; brown weathered bedrock, high saturated hydraulic conductivity

### ***Minor Components***

31-Steese, less than 30 percent slopes, and similar soils: 5 to 15 percent of the map unit  
 31-Gilmore and similar soils: 0 to 10 percent of the map unit  
 31-Fairbanks and similar soils: 2 to 10 percent of the map unit  
 31-Ester and similar soils: 0 to 5 percent of the map unit

## **31ST06—Steese silt loam, 45 to 70 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Steese and similar soils***

*Extent:* 85 to 95 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 45 to 70 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 20 to 40 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Vegetation:* paper birch, white spruce, and quaking aspen forest

*Representative Profile:*

Oi—0 to 2 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity

A—2 to 5 inches; brown silt loam, moderately high saturated hydraulic conductivity

Bw—5 to 27 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

2C—27 to 33 inches; dark brown very channery silt loam, high saturated hydraulic conductivity

2Cr—33 to 72 inches; dark brown weathered bedrock, high saturated hydraulic conductivity

### ***Minor Components***

31-Gilmore and similar soils: 0 to 10 percent of the map unit  
 31-Steese, less than 45 percent slopes, and similar soils: 5 to 10 percent of the map unit

**31ST08—Steese-Gilmore complex, 12 to 20 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

**31-Steese and similar soils**

*Extent:* 30 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 12 to 20 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 20 to 40 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Vegetation:* paper birch, white spruce, and quaking aspen forest

*Representative Profile:*

Oi—0 to 2 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity

A—2 to 5 inches; brown silt loam, moderately high saturated hydraulic conductivity

Bw—5 to 27 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

2C—27 to 33 inches; dark brown very channery silt loam, high saturated hydraulic conductivity

2Cr—33 to 72 inches; dark brown weathered bedrock, high saturated hydraulic conductivity

**31-Gilmore and similar soils**

*Extent:* 20 to 40 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 12 to 20 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 13 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 2.9 inches

*Vegetation:* black spruce, paper birch, quaking aspen, and white spruce forest

*Representative Profile:*

Oi—0 to 3 inches; yellowish brown slightly decomposed plant material, high saturated hydraulic conductivity

- A—3 to 6 inches; olive brown silt loam, moderately high saturated hydraulic conductivity
- Bw—6 to 12 inches; dark brown silt loam, moderately high saturated hydraulic conductivity
- 2BC—12 to 19 inches; yellowish brown extremely channery silt loam, high saturated hydraulic conductivity
- 2Cr—19 to 72 inches; yellowish brown weathered bedrock, high saturated hydraulic conductivity

### ***Minor Components***

- 31-Fairbanks and similar soils: 0 to 10 percent of the map unit
- 31-Gilmore, less than 12 percent slopes, and similar soils: 2 to 15 percent of the map unit
- 31-Steese, greater than 20 percent slopes, and similar soils: 2 to 15 percent of the map unit
- 31-Steese, less than 12 percent slopes, and similar soils: 2 to 10 percent of the map unit

## **31ST09—Steese-Gilmore complex, 20 to 30 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Steese and similar soils***

*Extent:* 30 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 20 to 30 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 20 to 40 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Vegetation:* paper birch, white spruce, and quaking aspen forest

*Representative Profile:*

Oi—0 to 2 inches; brown slightly decomposed plant material, high saturated hydraulic conductivity

A—2 to 5 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

Bw—5 to 27 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

2C—27 to 33 inches; brown very channery silt loam, high saturated hydraulic conductivity

2Cr—33 to 72 inches; brown weathered bedrock, high saturated hydraulic conductivity



### **31-Gilmore and similar soils**

*Extent:* 30 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 20 to 30 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 13 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 2.9 inches

*Vegetation:* black spruce, paper birch, quaking aspen, and white spruce forest

*Representative Profile:*

Oi—0 to 3 inches; yellowish brown slightly decomposed plant material, high saturated hydraulic conductivity

A—3 to 6 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

Bw—6 to 12 inches; olive brown silt loam, moderately high saturated hydraulic conductivity

2BC—12 to 19 inches; yellowish brown extremely channery silt loam, high saturated hydraulic conductivity

2Cr—19 to 72 inches; yellowish brown weathered bedrock, high saturated hydraulic conductivity

### **Minor Components**

31-Gilmore, less than 20 percent slopes, and similar soils: 2 to 15 percent of the map unit

31-Steese, less than 20 percent slopes, and similar soils: 2 to 10 percent of the map unit

31-Fairbanks and similar soils: 0 to 10 percent of the map unit

31-Steese, greater than 30 percent slopes, and similar soils: 2 to 10 percent of the map unit

### **31ST10—Steese-Gilmore complex, 30 to 45 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### **31-Steese and similar soils**

*Extent:* 30 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 30 to 45 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 20 to 40 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Vegetation:* paper birch, white spruce, and quaking aspen forest

*Representative Profile:*

Oi—0 to 2 inches; brown slightly decomposed plant material, high saturated hydraulic conductivity

A—2 to 5 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

Bw—5 to 27 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

2C—27 to 33 inches; brown very channery silt loam, high saturated hydraulic conductivity

2Cr—33 to 72 inches; brown weathered bedrock, high saturated hydraulic conductivity

### **31-Gilmore and similar soils**

*Extent:* 30 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 30 to 45 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 13 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 2.9 inches

*Vegetation:* black spruce, paper birch, quaking aspen, and white spruce forest

*Representative Profile:*

Oi—0 to 3 inches; olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—3 to 6 inches; yellowish brown silt loam, moderately high saturated hydraulic conductivity

Bw—6 to 12 inches; dark brown silt loam, moderately high saturated hydraulic conductivity

2BC—12 to 19 inches; olive brown extremely channery silt loam, high saturated hydraulic conductivity

2Cr—19 to 72 inches; olive brown weathered bedrock, high saturated hydraulic conductivity

### **Minor Components**

31-Gilmore, less than 30 percent slopes, and similar soils: 5 to 15 percent of the map unit

31-Steese, greater than 45 percent slopes, and similar soils: 2 to 10 percent of the map unit

31-Steese, less than 30 percent slopes, and similar soils: 2 to 10 percent of the map unit

### **31ST11—Steese-Gilmore complex, 45 to 70 percent slopes**

*Elevation:* 499 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### **31-Steese and similar soils**

*Extent:* 30 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* shoulders, backslopes

*Slope shape:* convex, linear

*Slope range:* 45 to 70 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 20 to 40 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches

*Vegetation:* paper birch, white spruce, and quaking aspen forest

*Representative Profile:*

Oi—0 to 2 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity

A—2 to 5 inches; brown silt loam, moderately high saturated hydraulic conductivity

Bw—5 to 27 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

2C—27 to 33 inches; dark brown very channery silt loam, high saturated hydraulic conductivity

2Cr—33 to 72 inches; dark brown weathered bedrock, high saturated hydraulic conductivity

#### **31-Gilmore and similar soils**

*Extent:* 30 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, summits

*Slope shape:* linear, convex

*Slope range:* 45 to 70 percent

*Parent material:* loess over residuum weathered from schist

*Depth to paralithic bedrock:* 13 to 24 inches

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 2.9 inches

*Vegetation:* black spruce, paper birch, quaking aspen, and white spruce forest

*Representative Profile:*

Oi—0 to 3 inches; dark brown slightly decomposed plant material, high saturated hydraulic conductivity

A—3 to 6 inches; yellowish brown silt loam, moderately high saturated hydraulic conductivity

Bw—6 to 12 inches; olive brown silt loam, moderately high saturated hydraulic conductivity

2BC—12 to 19 inches; dark brown extremely channery silt loam, high saturated hydraulic conductivity

2Cr—19 to 72 inches; dark brown weathered bedrock, high saturated hydraulic conductivity

### ***Minor Components***

31-Gilmore, less than 45 percent slopes, and similar soils: 2 to 10 percent of the map unit

31-Steese, less than 45 percent slopes, and similar soils: 2 to 10 percent of the map unit

### **31TG01—Toghotthele silt loam, 20 to 90 percent slopes**

*Elevation:* 344 to 2,799 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Toghotthele and similar soils***

*Extent:* 80 to 95 percent of the map unit

*Landform:* climbing dunes on hills

*Position on slope:* backslopes, shoulders

*Slope shape:* linear

*Slope range:* 20 to 90 percent

*Parent material:* loess over eolian sands

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 11.9 inches

*Representative Profile:*

Oi—0 to 1 inch; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—1 to 4 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

Bw, BC—4 to 51 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

2C—51 to 72 inches; light olive brown fine sand, high saturated hydraulic conductivity

### ***Minor Components***

31-Fairbanks and similar soils: 0 to 5 percent of the map unit

31-Rosie and similar soils: 0 to 5 percent of the map unit

31-Gilmore and similar soils: 0 to 5 percent of the map unit

31-Steese and similar soils: 0 to 5 percent of the map unit

### **31TG02—Toghotthele-Fairbanks complex, 12 to 20 percent slopes**

*Elevation:* 948 to 1,778 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

#### ***31-Toghotthele and similar soils***

*Extent:* 30 to 60 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, backslopes

*Slope shape:* linear

*Slope range:* 12 to 20 percent

*Parent material:* loess over eolian sands

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 11.9 inches

*Representative Profile:*

Oi—0 to 1 inch; grayish brown or light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—1 to 4 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

Bw, BC—4 to 51 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

2C—51 to 72 inches; grayish brown or light olive brown fine sand, high saturated hydraulic conductivity

#### ***31-Fairbanks and similar soils***

*Extent:* 20 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* backslopes, footslopes

*Slope shape:* linear

*Slope range:* 12 to 20 percent

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 3 inches; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A,Bw—3 to 30 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

C—30 to 72 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

31-Minto and similar soils: 0 to 15 percent of the map unit

31-Strelna and similar soils: 5 to 15 percent of the map unit

## **31TG03—Toghotthele-Fairbanks complex, 12 to 50 percent slopes**

*Elevation:* 948 to 1,778 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Toghotthele and similar soils***

*Extent:* 20 to 50 percent of the map unit

*Landform:* hills

*Slope shape:* linear

*Slope range:* 12 to 50 percent

*Parent material:* loess over eolian sands

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 11.9 inches

*Representative Profile:*

Oi—0 to 1 inch; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—1 to 4 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

Bw, BC—4 to 51 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

2C—51 to 72 inches; light olive brown fine sand, high saturated hydraulic conductivity

### ***31-Fairbanks and similar soils***

*Extent:* 20 to 50 percent of the map unit

*Landform:* hills

*Slope shape:* linear

*Slope range:* 12 to 50 percent

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 3 inches; grayish brown or light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A,Bw—3 to 30 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

C—30 to 72 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

31-Strelna and similar soils: 5 to 15 percent of the map unit

31-Toghotthele and similar soils: 5 to 15 percent of the map unit

## **31TG04—Toghotthele-Fairbanks complex, 20 to 40 percent slopes**

*Elevation:* 991 to 1,804 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Toghotthele and similar soils***

*Extent:* 30 to 70 percent of the map unit

*Landform:* hills

*Slope shape:* linear

*Slope range:* 20 to 40 percent

*Parent material:* loess over eolian sands

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 11.9 inches

*Representative Profile:*

Oi—0 to 1 inch; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—1 to 4 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

Bw, BC—4 to 51 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

2C—51 to 72 inches; light olive brown fine sand, high saturated hydraulic conductivity

### ***31-Fairbanks and similar soils***

*Extent:* 20 to 50 percent of the map unit

*Landform:* hills

*Slope shape:* linear

*Slope range:* 20 to 40 percent

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 3 inches; grayish brown or light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A,Bw—3 to 30 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

C—30 to 72 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

### ***Minor Components***

31-Minto and similar soils: 0 to 15 percent of the map unit

31-Strelna and similar soils: 5 to 15 percent of the map unit

## **31TG05—Toghotthele-Fairbanks complex, 7 to 12 percent slopes**

*Elevation:* 948 to 1,135 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 80 to 120 days

### ***31-Toghotthele and similar soils***

*Extent:* 30 to 70 percent of the map unit

*Landform:* hills

*Position on slope:* footslopes, toeslopes

*Slope shape:* linear

*Slope range:* 7 to 12 percent

*Parent material:* loess over eolian sands

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 11.9 inches

*Representative Profile:*

Oi—0 to 1 inch; light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A—1 to 4 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

Bw, BC—4 to 51 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity



2C—51 to 72 inches; light olive brown fine sand, high saturated hydraulic conductivity

### **31-Fairbanks and similar soils**

*Extent:* 20 to 50 percent of the map unit

*Landform:* hills

*Position on slope:* toeslopes, footslopes

*Slope shape:* linear

*Slope range:* 7 to 12 percent

*Parent material:* loess

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* April-Sept.—more than 72 inches

*Ponding:* none

*Available water capacity (approximate):* 12.2 inches

*Vegetation:* white spruce, paper birch, and quaking aspen forest

*Representative Profile:*

Oi—0 to 3 inches; grayish brown or light olive brown slightly decomposed plant material, high saturated hydraulic conductivity

A,Bw—3 to 30 inches; light olive brown silt loam, moderately high saturated hydraulic conductivity

C—30 to 72 inches; grayish brown or light olive brown silt loam, moderately high saturated hydraulic conductivity

### **Minor Components**

31-Minto and similar soils: 5 to 12 percent of the map unit

31-Strelna and similar soils: 5 to 15 percent of the map unit

## **R29WAA—Interior Alaska Lowlands, Water**

*Elevation:* 558 to 1,050 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

### **29-Water**

*Extent:* 93 to 100 percent of the map unit

*Landform:* lakes

### **Minor Components**

29-Beaches: 0 to 7 percent of the map unit

## **R31WAA—Interior Alaska Highlands, Water**

*Elevation:* 902 to 1,115 feet

*Mean annual precipitation:* 10 to 14 inches

*Frost-free period:* 90 to 135 days

**29-Water**

*Extent:* 95 to 100 percent of the map unit

*Landform:* lakes

***Minor Components***

29-Beaches: 0 to 5 percent of the map unit

# Soil Properties

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Data relating to soil properties are collected during the course of the soil survey. Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

## Engineering Index Properties

Tables 4 and 5 give the engineering classifications and the range of index properties for the layers of each soil in the survey area.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the USDA. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches (75 mm) in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches (75 mm) in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

*Liquid limit and plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

*Sand* as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. The estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. The estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. The estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

## Physical Properties

Table 6 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Moist bulk density* is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at  $1/3$ - or  $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

*Saturated Hydraulic Conductivity ( $K_{sat}$ )* refers to the ability of a soil to transmit water or air. The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the

field, particularly structure, porosity, and texture.  $K_{sat}$  is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at  $1/3$ - or  $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. The estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

*Erosion factors* are shown as the K factor ( $K_w$  and  $K_f$ ) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor  $K_w$*  indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor  $K_f$*  indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. Soils are grouped according to the amount of stable aggregates more than 0.84 millimeter in size. Soils containing rock fragments can occur in any group. The groups are as follows:

1 to 9 percent dry soil aggregates. These soils are very highly erodible. Crops can be grown if intensive measures to control wind erosion are used.

10 to 24 percent dry soil aggregates. These soils are highly erodible. Crops can be grown if intensive measures to control wind erosion are used.

25 to 39 percent dry soil aggregates. These soils are erodible. Crops can be grown if intensive measures to control wind erosion are used.

25 to 39 percent dry soil aggregates with greater than 35 percent clay or greater than 5 percent calcium carbonate. These soils are moderately erodible. Crops can be grown if measures to control wind erosion are used.

40 to 44 percent dry soil aggregates. These soils are slightly erodible. Crops can be grown if measures to control wind erosion are used.

45 to 49 percent dry soil aggregates. These soils are very slightly erodible. Crops can easily be grown.

50 percent or more dry soil aggregates. These soils are very slightly erodible. Crops can easily be grown.

Stony, gravelly, or wet soils and other soils not subject to wind erosion.

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

## Chemical Properties

Table 7 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

*Cation-exchange capacity* is the total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

*Effective cation-exchange capacity* refers to the sum of exchangeable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

*Soil reaction* is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

*Calcium carbonate* equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

## Physical and Chemical Analyses of Selected Soils

The results of physical and chemical analysis of the following selected soils in the survey area are available at <http://ssldata.nrcs.usda.gov/querypage.asp>. To query, check the *User Pedon ID* box and enter the User Pedon ID number, then select the *Execute Query* button. The data are for soils sampled at carefully selected sites.

Unless otherwise indicated, the pedons are typical of the taxonomic unit. They are described in the section "Taxonomic Units and Their Morphology."

Correlated Name	User Pedon ID	Location
Nenana	S06AK240001	63° 48' 57" N; 144° 58' 4" W
Moosehead	S06AK240002	63° 52' 52" N; 145° 1' 39" W
Beales	S06AK240003	64° 0' 43" N; 145° 22' 24" W
Salchaket	S06AK240004	64° 7' 42" N; 145° 49' 28" W
Southpaw	S06AK240005	64° 1' 36" N; 145° 36' 40" W
Toghotthele	S06AK240006	64° 11' 10" N; 145° 47' 60" W

## Water Features

Table 8 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

*Hydrologic soil groups* are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

*Flooding* is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

*Duration* and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as *none*, *very rare*, *rare*, *occasional*, *frequent*, and *very frequent*. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1

to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods is also considered. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

*Ponding* is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 8 indicates surface water *depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

*Moisture status* indicates the water content in the soil at a specified depth. The *Status* is expressed as *wet*, *moist*, or *dry*. *Wet* refers to soil in which most of the pore space is filled with water and the water is retained at less than 0.00001 bar suction. *Moist* refers to soil in which some of the pore space is filled with water and the water is retained at between 0.00001 and 15 bar suction. *Dry* refers to soil with little to no water in the pore spaces. Any water is retained at greater than 15 bar suction, which is generally near or above the wilting point of common agricultural crops. *Frozen* is used to indicate that the temperature of the soil layer is below the freezing point of water.

## Soil Features

Table 9 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restricts roots or otherwise provides an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer which significantly affects the ease of excavation.

*Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*Subsidence* is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.



*Potential for frost action* is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures. Potential for frost action is expressed as *low*, *moderate*, or *high*.

*Risk of corrosion* pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.



# Use and Management of the Soils

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This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, foresters, botanists, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreation facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, permafrost, or unstable soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, and trails.

## Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. Other tables indicate the suitability of the soils for use as source materials. The ratings in these tables are both verbal and numerical.

### Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *somewhat limited*, and *very limited*. The suitability ratings are expressed as *source*, *probable source*, and *improbable source* or as *good*, *fair*, and *poor*. In some tables, *slight*, *moderate*, and *severe* are used to describe the degree to which certain soil features or site characteristics result in limitations that affect a specified use of the soil.

## Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. The numerical ratings, as they relate to each specific interpretation, are explained in the sections that follow.

## Recreation

The soils of the survey area are rated in table 10 according to limitations that affect their suitability for recreation. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00). If the soil is *not limited* (value = 0.00), no entry appears for the numerical value. The ratings in the table are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality and vegetation.

The information in table 12 can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

*Camp areas* require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Picnic areas* are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns

affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Primitive camp areas* are recreational areas that are used for tent camping by small groups of people. These areas are typically in undeveloped or minimally developed, remote locations off the road system. Primitive camp areas are subject to intermittent light to heavy foot traffic. The soils are rated as *not limited*, *somewhat limited*, and *very limited* to indicate the extent to which soil and site properties limit the use and performance for the intended use. The critical properties are slope, the texture of the soil surface, the amount of small and large stones on the soil surface, permeability, and flooding and ponding hazards. Ratings for primitive camp areas can help land management agencies direct use to soils favorable for remote camping and thereby increase user satisfaction and minimize site damage. *Not limited* indicates that the soil has few features that limits its use as a primitive camp site. Intermittent use should not cause significant site degradation. *Somewhat limited* indicates that the soil has moderate limitations. Some moderate limitations are seasonal, such as wet ground, flooding, and dustiness during dry conditions. *Very limited* indicates that the soil has one or more features that are unfavorable during all seasons, such as steep slopes or poor soil drainage and a shallow water table.

*Foot and ATV trails* for hiking, horseback riding, and ATV use should require little or no slope modification and site preparation through cutting and filling. These trails are not covered with surfacing material or vegetation. The ratings are based on the soil properties that affect trafficability, erodibility, dustiness, and the ease of revegetation. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

## Engineering

This section provides information for planning land uses related to building sites. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, and construction materials. The ratings are based on observed performance of the soils and on the estimates given under the heading "Soil Properties".

*Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet (1.5 to 2.1 m). Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.*

*The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.*

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet (1.5 to 2.1 m) of

the surface, soil wetness, depth to water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

## Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Table 11 shows the degree and kind of soil limitations that affect structures and site improvements, including dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical values in the tables indicate the severity of individual limitations. The values are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00). If the soil is not limited (value = 0.00), no entry appears for the numerical value.

*Dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet (0.6 m) or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet (2.1 m). The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and

compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock, permafrost, or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial buildings* are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet (0.6 m) or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, permafrost, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

## Sanitary Facilities

Tables 12 and 13 show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical values in the tables indicate the severity of individual limitations. The values are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00). If the soil is *not limited* (value = 0.00), no entry appears for the numerical value.

*Septic tank absorption fields* are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 4 and 6 feet (1.2 and 1.8 m) is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock, permafrost, or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet (1.2 m) below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

*Sewage lagoons* are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level

floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock, permafrost, or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches (5 cm) per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches (102 cm), if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet (0.6 m) thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock, permafrost, or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet (1.8 m). For deeper trenches, onsite investigation may be needed.

Hard, non-rippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet (0.6 m) thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock, permafrost, or a cemented pan.



Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

*Daily cover for landfill* is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

## Construction Materials

Tables 14 and 15 give information about the soils as potential sources of gravel, sand, topsoil, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

In table 14 the soils are rated as a *probable* or *improbable* source of sand and gravel. A rating of *probable* means that the source material is likely to be in or below the soil. The numerical ratings in these columns indicate the degree of probability. The number 0.00 indicates that the soil is an improbable source. A number between 0.00 and 1.00 indicates the degree to which the soil is a probable source of sand or gravel.

*Sand* and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 14, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

In table 15 the soils are rated *good*, *fair*, or *poor* as potential sources of topsoil, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil or roadfill. The lower the number, the greater the limitation. Only material in suitable quantity is evaluated.

*Topsoil* is used to cover an area so that vegetation can be established and maintained. The upper 40 inches (102 cm) of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. Rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material affect the ease of excavating, loading and spreading. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

*Roadfill* is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet (1.8 m) high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet (1.5 m). It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties affecting the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. Large stones, depth to a water table, and slope affect the ease of excavation. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential). Susceptibility to frost action is also considered. The soils are rated based on the most limiting layers. Often a soil will have finer textured upper layers that are affected by frost action, while coarser textured lower layers in the same soil may not be affected.

## Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or non-hydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties

unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in *Soil Taxonomy* (Soil Survey Staff, 1999) and *Keys to Soil Taxonomy* (Soil Survey Staff, 2006) and in the *Soil Survey Manual* (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in *Field Indicators of Hydric Soils in the United States* (Hurt and others, 1998).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches (50 cm). This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Those soils that meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators, are listed in table 16. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1998).

Some map units consist almost entirely of hydric soils, such as map unit 29TC03—Tanacross, occasionally flooded-Histels association (in which all listed components are hydric). Other map units consist primarily of non-hydric soils, such as map unit 31AN02—Angel-McCloud complex 15 to 40 percent slopes (in which all listed components are non-hydric), or map unit 39SC03—Salchaket very fine sandy loam, occasionally flooded (in which hydric soils are present only as minor components). Hydric soils may occur as minor inclusions even in map units listed without any hydric soils.

The table also lists the local landform on which each soil occurs, the hydric criteria code, and whether or not each soil meets the saturation, flooding, or ponding criteria for hydric soils. Codes for hydric soil criteria are explained in the following key:

### Key To Hydric Soil Criteria

1. All Histels except Folistels and Histosols except Folists, or
2. Soils in Aquic suborders, subgroups, or subgroups, Albolls suborder, Historthels great group, Histoturbles great group, Pachic subgroups, or Cumulic subgroups that are:
  - a. somewhat poorly drained with a water table equal to 0.0 foot (ft) from the surface during the growing season, or
  - b. poorly drained or very poorly drained and have either:
    - i. water table equal to 0.0 ft during the growing season if textures are coarse sand, sand, or fine sand in all layers within 20 inches (in),
    - or for other soils
    - ii. water table at less than or equal to 0.5 ft from the surface during the growing season if permeability is equal to or greater than 6.0 in/hour (h) in all layers within 20 in,
    - or

- iii. water table at less than or equal to 1.0 ft from the surface during the growing season if permeability is less than 6.0 in/h in any layer within 20 in, or
- 3. Soils that are frequently ponded for a long duration or a very long duration during the growing season, or
- 4. Soils that are frequently flooded for a long duration or a very long duration during the growing season.

## Classification of the Soils

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The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 2006 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 17 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

**ORDER.** Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is *Inceptisol*.

**SUBORDER.** Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is *cryept* (*cry*, meaning cold, plus *ept*, from *Inceptisol*).

**GREAT GROUP.** Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is *Haplocryept* (*haplo*, meaning low base saturation, plus *cryept*, the suborder of the Inceptisol that has a cryic temperature regime).

**SUBGROUP.** Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *typic* identifies the subgroup that typifies the great group. An example is *Typic Haplocryepts*.

**FAMILY.** Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is *coarse-loamy, mixed, super active Typic Haplocryepts*.

**SERIES.** The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. An example from this survey area is the *Stees series*.

## Taxonomic Units and Their Morphology

The Official Series Descriptions (OSDs) provide the most current information about the series mapped in this survey area. These descriptions are available on the Web at <http://soils.usda.gov>.

Descriptions for higher level taxonomic units recognized in this survey area are provided below. Characteristics of the soil and the material in which it formed are identified for each taxonomic unit. A pedon, a small three-dimensional area of soil, typical of the taxonomic unit in the survey area is described. The detailed description of each soil horizon follows standards in the *Soil Survey Manual* (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in *Soil Taxonomy* (Soil Survey Staff, 1999) and in *Keys to Soil Taxonomy* (Soil Survey Staff, 2006). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the taxonomic unit.

### MLRA 228

#### Terric Hemistels

##### *Taxonomic Classification*

- Terric Hemistels

##### *Setting*

*Depth class:* shallow or moderately deep

*Drainage class:* very poorly drained or poorly drained

*Landforms:* outwash plains; depressions on moraines

*Parent material:* organic material over loess over outwash; organic material over till

*Elevation:* 1,470 to 3,921 feet

*Slope:* 0 to 5 percent

*Annual precipitation:* 23 to 35 inches

*Annual temperature:* 16 to 36 degrees F

*Frost-free period:* 70 to 105 days

##### *Representative Pedon Location*

*Map unit in which located:* 655—Terric Hemistels-Typic Aquiturbels-Water complex

*Location:* Fort Greely and Donnelly Training Area, Alaska soil survey; UTM zone 6, Easting 565815, Northing 7090275; southeast of Canister Lake

##### *Representative Pedon*

Oe—0 to 20 inches; very dark brown (10YR 2/2) mucky peat; many very fine to fine roots; moderately acid; gradual broken boundary.

A/O—20 to 24 inches; very dark grayish brown (10YR 3/2) silt loam and black (7.5YR 2.5/2) mucky peat; massive; friable; nonsticky and slightly plastic; many very fine to fine roots; slightly acid; abrupt smooth boundary.

Bjgjf—24 to 60 inches; very dark grayish brown (2.5YR 3/2 and 10YR 3/2) permanently frozen silt loam; massive; extremely firm; slightly sticky and nonplastic; slightly acid.

***Range in Characteristics***

*Soil moisture class:* udic

*Average annual soil temperature:* -1 degree F

*Depth to permafrost:* 10 to 28 inches

*O horizon:*

Color—hue from 5YR to 2.5Y; value from 2 to 6; chroma from 1 to 6

Texture—peat; mucky peat; permanently frozen muck

Organic matter content—60 to 95 percent

Reaction—extremely acid to slightly acid

*OA or A/O horizons:*

Color—hue of 7.5YR or 10YR; value of 2 or 3; chroma from 1 to 3

Texture—mucky silt loam; mucky very fine sandy loam; mixed silt loam and mucky peat

Clay content—2 to 10 percent

Silt content—35 to 80 percent

Sand content—20 to 60 percent

Organic matter content—11 to 20 percent

Rock fragments—0 to 10 percent gravel; 0 to 5 percent cobbles

Reaction—strongly acid to slightly acid

*A horizon:*

Color—hue of 7.5YR or 10YR; value of 2 or 3; chroma of 1 or 2

Texture—mucky silt loam; silt loam; very fine sandy loam

Clay content—3 to 7 percent

Silt content—30 to 75 percent

Sand content—22 to 65 percent

Organic matter content—4 to 12 percent

Rock fragments—0 to 20 percent gravel; 0 to 10 percent cobbles

Reaction—very strongly acid to slightly acid

*B horizon:*

Color—hue of 10YR or 2.5Y; value from 2 to 4; chroma from 1 to 4

Texture—silt loam; very fine sandy loam; sandy loam

Clay content—2 to 10 percent

Silt content—32 to 75 percent

Sand content—22 to 65 percent

Organic matter content—1 to 5 percent

Rock fragments—0 to 30 percent gravel; 0 to 5 percent cobbles

Reaction—strongly acid to neutral

*C horizon:*

Color—hue of 2.5Y or 5Y; value from 3 to 5; chroma of 2 or 3

Texture—silt loam; very fine sandy loam; permanently frozen material

Clay content—3 to 10 percent

Silt content—32 to 75 percent

Sand content—22 to 65 percent

Organic matter content—2 to 5 percent

Reaction—strongly acid or moderately acid

## Typic Aquiturbels

### ***Taxonomic Classification***

- Typic Aquiturbels

### ***Setting***

*Depth class:* very shallow to moderately deep

*Drainage class:* somewhat poorly drained or poorly drained

*Landforms:* alluvial fans; flood plains; hills; moraines; outwash plains

*Parent material:* alluvium over till; loess; loess over outwash; loess over till

*Elevation:* 1,040 to 3,583 feet

*Slope:* 0 to 30 percent

*Annual precipitation:* 13 to 34 inches

*Annual temperature:* 12 to 36 degrees F

*Frost-free period:* 65 to 105 days

### ***Representative Pedon Location***

*Map unit in which located:* 627—Histels-Typic Histoturbels-Typic Historthels complex

*Location:* Ft. Greely and Donnelly Training Area, Alaska soil survey; UTM coordinates: Zone 4, Easting 528877, Northing 7102222

### ***Representative Pedon***

Oe—0 to 4 inches; very dark grayish brown (10YR 3/2) moderately decomposed plant material; many very fine and fine, common medium and few coarse roots; very strongly acid; clear, smooth boundary.

O/A—4 to 6 inches; black (10YR 2/1) mucky silt loam; many very fine and fine and few medium roots; moderately acid; clear, wavy boundary.

Bjff—6 to 8 inches; very dark grayish brown (2.5Y 3/2) and black (10YR 2/1) permanently frozen silt loam; 0.04 in. dark yellowish brown (10YR 4/6) high chroma redox concentrations (approximately 2 percent of horizon); strongly acid; clear, wavy boundary.

Bjjgf—8 to 16 inches; dark gray (2.5Y 4/1) and black (10YR 2/1) permanently frozen silt loam; strongly acid; clear, wavy boundary.

Cf—16 to 60 inches; permanently frozen material.

### ***Range in Characteristics***

*Soil moisture class:* aquic

*Average annual soil temperature:* -1 degree F

*Depth to permafrost:* 6 to 31 inches

*O horizon:*

Color—hue from 2.5YR to 10YR; value from 2 to 4; chroma from 1 to 4

Texture—moderately decomposed plant material; slightly decomposed plant material

Organic matter content—75 to 95 percent

Reaction—extremely acid to slightly acid

*OA horizon:*

Color—hue of 10YR or 2.5Y; value of 2 or 3; chroma of 1 or 2

Texture—mucky silt loam; mucky very fine sandy loam



Clay content—3 to 10 percent  
 Silt content—35 to 80 percent  
 Sand content—17 to 60 percent  
 Organic matter content—11 to 20 percent  
 Rock fragments—0 to 10 percent gravel; 0 to 5 percent cobbles  
 Reaction—very strongly acid or strongly acid

*A or A<sub>ij</sub> horizons (where present):*

Color—value of 2 or 3; chroma from 1 to 4  
 Texture—silt loam; very fine sandy loam; sandy loam; fine sandy loam  
 Clay content—3 to 10 percent  
 Silt content—22 to 75 percent  
 Sand content—20 to 75 percent  
 Organic matter content—2 to 8 percent  
 Reaction—extremely acid to moderately acid

*B<sub>w</sub>, B<sub>g</sub>, B<sub>jj</sub>, or B<sub>f</sub> horizons:*

Color—hue from 10YR to 5Y; value from 3 to 5; chroma from 1 to 4  
 Texture—sandy loam; loamy sand; silt loam; very fine sandy loam; loam; fine sandy loam  
 Clay content—3 to 10 percent  
 Silt content—15 to 75 percent  
 Sand content—20 to 80 percent  
 Organic matter content—0 to 5 percent  
 Rock fragments—0 to 40 percent gravel; 0 to 20 percent cobbles  
 Reaction—strongly acid to slightly acid

*2B<sub>f</sub> or 2BC<sub>f</sub> horizons (where present):*

Color—value of 2 or 3; chroma from 2 to 4  
 Texture—very fine sandy loam; loamy sand  
 Clay content—3 to 7 percent  
 Silt content—10 to 47 percent  
 Sand content—50 to 85 percent  
 Rock fragments—0 to 20 percent gravel  
 Reaction—strongly acid to neutral

*2C<sub>f</sub> or C<sub>f</sub> horizon (where present):*

Color—value from 3 to 5; chroma from 1 to 4  
 Texture—loam; silt loam; very fine sandy loam; permanently frozen material  
 Clay content—3 to 10 percent  
 Silt content—30 to 73 percent  
 Sand content—20 to 65 percent  
 Organic matter content—0 to 2 percent  
 Rock fragments—0 to 15 percent gravel; 0 to 5 percent cobbles  
 Reaction—very strongly acid to moderately acid

## **MLRA 229**

### **Aquic Cryofluvents**

#### ***Taxonomic Classification***

- Aquic Cryofluvents

*Depth class:* deep (more than 40 inches) over sand and gravel

*Drainage class:* somewhat poorly drained

*Permeability:* rapid in the organic mat; moderate in the sand and silt

*Position on landscape:* floodplains

*Parent material:* alluvium

*Slope range:* 0 to 2 percent

*Elevation:* 1,000 to 1,100 feet

### ***Representative Pedon***

Aquic Cryofluvents—on a 0 percent slope under open white spruce forest at 1,025 feet elevation

Oi—0 to 7 inches; dark brown (7.5YR 3/2) slightly decomposed organic matter; many very fine to coarse roots; strongly acid (pH 5.4); clear wavy boundary

Bw—7 to 37 inches; dark grayish brown (2.5Y 4/2) and olive brown (2.5Y 4/4) silt loam stratified with fine sand; few fine prominent strong brown (7.5YR 4/6) mottles; single grain; nonsticky and nonplastic; neutral (pH 6.8) gradual smooth boundary

C1—37 to 47 inches; dark grayish brown (2.5Y 4/2) stratified sand and fine sand; single grain; loose; nonsticky and nonplastic; neutral (pH 7.2); clear wavy boundary

Oib—47 to 53 inches; dark brown (7.5YR 3/4) slightly decomposed organic matter; neutral (pH 6.6); clear smooth boundary

C2—53 to 57 inches; dark gray (N 4/0) silty clay loam; massive; sticky and plastic; neutral (pH 6.6)

### ***Representative Pedon Location***

*Map unit in which located:* 203—Aquic Cryofluvents-Typic Cryaquents complex

*Location:* Gerstle River Area, Alaska Soil Survey; SE 1/4, SW 1/4, Section 26, T.9S., R.11E. Transect 91DS522, hole 8

### ***Range in Characteristics***

*Thickness of the organic mat:* 4 to 10 inches

*Depth to sand and gravel:* more than 40 inches from the mineral soil surface

*Depth to seasonally high water table:* 2.0 to 4 feet

*O horizon:*

Color—hue of 10YR or 7.5YR; value moist of 2 or 3; chroma moist of 1 or 2

Reaction—4.8 to 6.6

*Bw horizon:*

Color—hue of 7.5YR, 10YR, 2.5Y, 5Y, 5GY, or N; value moist of 4; chroma moist of 0 to 6

Texture—stratified silt loam, loamy fine sand, and fine sand

Reaction—6.6 to 7.0

*C horizon:*

Color—hue of 10YR or 2.5Y; value moist of 3 or 4; chroma moist of 1 to 6

Texture—stratified sand, fine sand, loamy very fine sand, silt loam, and silty clay loam

Reaction—pH 6.6 to 7.6

## Aquic Haplocryepts

### ***Taxonomic Classification***

- Aquic Eutrocryepts

*Depth class:* shallow to very deep (10 to more than 60 inches) over sand and gravel

*Drainage class:* somewhat poorly drained

*Permeability:* rapid in the organic mat; moderate in the loamy material; rapid in the sand and gravel

*Position on landscape:* floodplains

*Parent material:* alluvium

*Slope range:* 0 to 3 percent

*Elevation:* 1,100 to 1,500 feet

### ***Representative Pedon***

Aquic Eutrocryept—on a 0 percent slope under open black spruce forest at 1,300 feet elevation

Oi—0 to 7 inches; dark brown (7.5YR 3/2) slightly decomposed organic matter; many very fine to medium roots; extremely acid (pH 4.2); clear smooth boundary

AO—7 to 9 inches; very dark gray (7.5YR 3/1) mucky silt loam; weak coarse subangular blocky structure; very friable; slightly sticky and slightly plastic; common very fine to fine roots; moderately acid (pH 5.6); clear wavy boundary

Bw—9 to 25 inches; brown (10YR 4/3) and grayish brown (2.5Y 5/2) stratified silt loam to fine sand; common coarse prominent strong brown (7.5YR 4/6) mottles; weak coarse platy structure; friable; nonsticky and slightly plastic few fine roots; slightly acid (pH 6.4) abrupt smooth boundary

2C1—25 to 35 inches; olive brown (2.5Y 4/4) coarse sand; single grain; loose; nonsticky and nonplastic; neutral (pH 6.6); clear smooth boundary

2C2—35 to 67 inches; variegated extremely gravelly sand; single grain; loose; nonsticky and nonplastic; 60 percent gravel

### ***Representative Pedon Location***

*Map unit in which located:* 201—Aquic Eutrocryepts-Tanacross complex

*Location:* Gerstle River Area, Alaska Soil Survey; NE 1/4 of the SW 1/4, Section 14, T.13S, R.15E. Transect 90DS513, hole 3

### ***Range in Characteristics***

*Thickness of the organic mat:* 2 to 10 inches

*Depth to sand and gravel:* 10 to more than 60 inches from the mineral soil surface

*Depth to seasonally high water table:* usually greater than 6 feet; perched nearer the surface in spring

*O horizon:*

Color—hue of 5YR, 7.5YR, or 10YR; value moist of 2 or 3; chroma moist of 2 or 3

Reaction—3.8 to 5.2

*Bw horizon:*

Color—hue of 2.5Y, 5Y, 5GY, N, or 10YR; value moist of 3 to 5; chroma moist of 0 to 6

Texture—silt loam, stratified silt loam, very fine sand, fine sand, loamy fine sand, and sand

Rock fragments—0 to 10 percent

Reaction—5.6 to 7.0

*2C horizon:*

Color—variegated

Texture—extremely gravelly coarse sand, extremely gravelly sand, very gravelly coarse sand, very gravelly sand, sand, fine sand

Rock fragments—40 to 70 percent

Reaction—6.4 to 7.0

**Histels*****Taxonomic classification***

- Histels

*Depth class:* shallow to moderately deep

*Drainage class:* poorly drained

*Landforms:* terraces

*Parent material:* organic material over loess

*Elevation:* 902 to 1,214 feet

*Slope:* 0 to 7 percent

*Annual precipitation:* 10 to 14 inches

*Annual temperature:* 25 to 28 degrees F

*Frost-free period:* 90 to 135 days

***Representative Pedon***

Histels—on a 1 percent slope at an elevation of 328 meters.

Oi—0 to 24 centimeters (0 to 9.4 inches); dark brown (7.5YR 3/4) moist, peat; common coarse roots, many medium roots and many very fine and fine roots; noneffervescent; moderately acid, pH 5.8; clear wavy boundary.

Oe—24 to 44 centimeters (9.4 to 17.3 inches); black (10YR 2/1) moist, mucky peat; very few coarse roots, common medium roots and many very fine and fine roots; noneffervescent; slightly acid, pH 6.2; clear wavy boundary.

Bjj—44 to 58 centimeters (17.3 to 22.8 inches); 80 percent gray (2.5Y 5/1) moist and 20 percent black (2.5Y 2.5/1) moist, silt loam; weak coarse subangular blocky structure; friable, nonsticky, nonplastic; very few coarse roots, very few medium roots and common very fine and fine roots; noneffervescent; slightly acid, pH 6.2; clear wavy boundary.

Cf—58 to 80 centimeters (22.8 to 31.5 inches); dark grayish brown (2.5Y 4/2) moist, permanently frozen silt loam; very few coarse roots, very few medium roots and very few very fine and fine roots; noneffervescent; neutral, pH 6.6.

***Representative Pedon Location***

Map unit in which located: 29TC03-Tanacross, occasionally flooded-Histels association

Location in survey area: 64 degrees, 1 minute, 44 seconds north latitude, 145 degrees, 21 minutes, 20 seconds west longitude

***Range in Characteristics***

Thickness of the organic mat: 16 to 40 inches

Depth to permafrost: 15 to 30 inches

***O horizons:***

Color—hue of 7.5YR, 10YR; value from 1 to 3; chroma from 1 to 5

Organic matter content—60 to 95 percent

Reaction—moderately acid to neutral

***B<sub>ij</sub> horizons:***

Color—hue of 7.5YR, 10YR, 2.5Y; value from 2 to 5; chroma from 1 to 4

Texture—silt loam, very fine sandy loam, permanently frozen silt loam, permanently frozen very fine sandy loam

Organic matter content—3 to 6 percent

Reaction—slightly acid to neutral

***C<sub>f</sub> horizons:***

Color—hue of 7.5YR, 10YR, 2.5Y; value from 2 to 5; chroma from 1 to 4

Texture—silt loam, very fine sandy loam, permanently frozen silt loam, permanently frozen very fine sandy loam

Organic matter content—3 to 6 percent

**Histic Cryaquepts*****Taxonomic Classification***

- Histic Cryaquepts

***Setting***

*Depth class:* very deep

*Drainage class:* poorly or very poorly drained

*Saturated Hydraulic Conductivity:* moderately high in the loamy surface materials

*Landforms and positions:* depressions on floodplains, terraces and fans

*Parent material:* organic matter over alluvium

*Slope range:* 0 to 2 percent

*Elevation:* 550 to 1,000 feet

*Climatic data (average annual):*

Precipitation—10 to 14 inches

Air temperature—24° to 28°F

### ***Representative Pedon Description***

Histic Cryaquepts—on a level slope at 700 feet elevation, under bog birch willow and sedge vegetation

Oi—0 to 7 inches; dark yellowish brown (10YR 4/4) peat; many very fine to coarse roots; strongly acid (pH 5.5); clear wavy boundary.

Oe—7 to 11 inches; black (7.5YR 2.5/1) mucky peat; many very fine to coarse roots; strongly acid (pH 5.5); clear wavy boundary.

Bg—11 to 23 inches; light olive brown (2.5Y 4/3) and gray (2.5Y 5/1) very fine sandy loam; weak thin platy structure; friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; 10 percent medium brown (7.5Y 4/4) redoximorphic concentrations; moderately acid (pH 5.6); clear smooth boundary.

2Cg—23 to 72 inches; brown (10YR 5/3) very gravelly sandy loam; massive; friable, nonsticky and nonplastic; few fine and medium roots; 40 percent gravel; 15 percent medium brown (7.5Y 4/4) redoximorphic concentrations and 10 percent fine and medium gray (2.5Y 5/2) redoximorphic depletions; moderately acid (pH 5.7).

### ***Representative Pedon Location***

*Map unit:* 29NE01—Nenana silt loam, 0 to 3 percent slopes

*Location:* Greater Nenana Area, Alaska Soil Survey; UTM zone 6, 7122882 m N, 385782 m E; about 7 miles south west of Clear Air Force Base

### ***Range in Characteristics***

*Organic layer thickness:* 8 to 16 inches

#### *O Horizon:*

Color—hue of 7.5YR or 10YR; value moist of 2 to 4; chroma moist from 1 to 4

Texture—peat, mucky peat or muck

Reaction—extremely acid to moderately acid

#### *A horizon: (where present)*

Color—hue of 7.5YR or 10YR; value moist of 2 or 3; chroma moist of 1 or 2

Texture—silt loam, very fine sandy loam, silty clay loam or silty clay or with a mucky modifier

Reaction—moderately acid to neutral

#### *Bg horizon:*

Color—hue of 2.5Y or 10YR; value moist of 3 to 5; chroma moist from 2 to 4

Texture—silt loam, very fine sandy loam or silty clay loam

Reaction—strongly acid to neutral

#### *2Cg horizon:*

Color—hue of 2.5Y or 10YR; value moist of 3 to 5; chroma moist from 2 to 4

Texture—very fine sandy loam, gravelly or very gravelly very fine sandy loam or silt loam

Coarse fragments—0 to 50 percent

Reaction—strongly acid to neutral

## **Terric Cryohemists**

### ***Taxonomic Classification***

- Terric Cryohemists

### ***Setting***

*Depth class:* very deep

*Drainage class:* very poorly drained

*Saturated Hydraulic Conductivity:* very high in the organic surface materials;  
moderately high in the loamy substratum

*Landforms and positions:* depressions on floodplains and terraces

*Parent material:* organic matter over alluvium

*Slope range:* 0 to 1 percent

*Elevation:* 350 to 650 feet

*Climatic data (average annual):*

Precipitation—10 to 14 inches

Air temperature—24° to 28°F

### ***Representative Pedon Description***

Terric Cryohemists—in a level depression at 426 feet elevation, under sedge vegetation

Oi—0 to 3 inches; dark reddish brown (5YR 3/2) peat; many very fine to medium roots; extremely acid (pH 4.2); clear wavy boundary.

Oe1—3 to 5 inches; black (7.5YR 2.5/1) mucky peat; many very fine to medium roots; strongly acid (pH 5.2); clear wavy boundary.

Oe2—5 to 12 inches; black (7.5YR 2.5/1) mucky peat; many very fine and fine and few medium roots; neutral (pH 6.6); clear wavy boundary.

Oa—12 to 22 inches; black (7.5YR 2.5/1) gravelly muck; many very fine and fine and few medium roots; 20 percent gravel and 13 percent cobbles; neutral (pH 6.8); clear wavy boundary.

Bg—22 to 28 inches; 40 percent olive brown (2.5Y 4/4) and 30 percent gray (2.5Y 5/1) extremely gravelly sandy loam; massive; very friable, nonsticky and nonplastic; common very fine and fine roots; 60 percent gravel and 2 percent cobbles; 15 percent dark yellowish brown (10YR 4/6) redoximorphic concentrations and 15 percent dark gray (5Y 4/1) redoximorphic depletions; neutral (pH 6.8); diffuse wavy boundary.

Cg—28 to 72 inches; greenish gray (5GY 5/1) extremely gravelly silt loam; massive; friable, nonsticky and nonplastic; 60 percent gravel and 2 percent cobbles; neutral (pH 6.8).

### ***Representative Pedon Location***

Map unit: 29LS01—Liscum-Terric Cryohemists-Bolio complex

Location: Greater Nenana Soil Survey Area, Alaska; about 2 miles north of Anderson; in the SE 1/4 of the SW 1/4, section 22 T. 6 S., R. 8 W., Fairbanks Meridian; UTM north 7140699 and UTM east 396248 zone 6.

### ***Range in Characteristics***

*Organic layer thickness:* 16 to 51 inches

*Oi horizon:*

Color—hue of 5YR, 7.5YR or 10YR; value moist of 2 or 3; chroma moist from 1 to 3  
 Reaction—extremely acid to slightly acid

*Oe horizon:*

Color—hue of 5YR, 7.5YR or 10YR; value moist of 2 or 3; chroma moist from 1 to 3  
 Texture—mucky peat or gravelly mucky peat  
 Coarse fragments—0 to 20 percent  
 Gravel content—0 to 15 percent  
 Cobble content—0 to 5 percent  
 Reaction—strongly acid to slightly acid

*Oa horizon (where present):*

Color—hue of 5YR, 7.5YR or 10YR; value moist of 2 or 3; chroma moist from 1 to 3  
 Texture—muck or muck with gravelly, very gravelly or extremely gravelly modifiers  
 Coarse fragments—0 to 65 percent  
 Gravel content—0 to 50 percent  
 Cobble content—0 to 15 percent  
 Reaction—moderately acid to neutral

*Bg horizon:*

Color—hue of 10Y, 5Y, 2.5Y, 5GY, or N; value moist from 2 to 4; chroma moist from 0 to 4  
 Texture—silt loam, sandy loam, silty clay loam, often with mucky, gravelly, very gravelly or extremely gravelly modifiers  
 Coarse fragments—0 to 65 percent  
 Gravel content—0 to 60 percent  
 Cobble content—0 to 5 percent  
 Reaction—moderately acid to neutral

*Cg horizon:*

Color—hue of 10Y, 5Y, 2.5Y, 5GY, or N; value moist from 2 to 4; chroma moist from 0 to 2  
 Texture—silt loam, sandy loam, silty clay loam, often with gravelly, very gravelly or extremely gravelly modifiers  
 Coarse fragments—0 to 65 percent  
 Gravel content—0 to 60 percent  
 Cobble content—0 to 5 percent  
 Reaction—moderately acid to neutral

**Terric Sapristels*****Taxonomic Classification***

- Terric Sapristels

***Setting***

*Depth class:* shallow to moderately deep

*Drainage class:* poorly drained

*Landforms:* plains

*Parent material:* organic material over coarse-silty alluvium



*Elevation:* 902 to 1,001 feet

*Slope:* 2 to 4 percent

*Annual precipitation:* 10 to 14 inches

*Annual temperature:* -4 to -2 degrees C

*Frost-free period:* 90 to 135 days

### ***Representative Pedon***

Terric Sapristels—on a 3 percent slope at an elevation of 938 feet.

Oi—0 to 5.9 inches; very dark brown (7.5YR 2.5/2) moist, mucky peat; common coarse roots, common medium roots and many very fine and fine roots; noneffervescent; slightly acid, pH 6.2; clear smooth boundary.

Oa—5.9 to 11.8 inches; black (7.5YR 2.5/1) moist, muck; nonsticky, nonplastic; very few coarse roots, common medium roots and many very fine and fine roots; noneffervescent; moderately acid, pH 6; clear wavy boundary.

Oaf—11.8 to 17.7 inches; black (10YR 2/1) moist, permanently frozen muck; nonsticky, nonplastic; very few coarse roots, very few medium roots and common very fine and fine roots; noneffervescent; moderately acid, pH 6; clear wavy boundary.

Af—17.7 to 72 inches; dark brown (10YR 3/3) moist, mucky silt loam; nonsticky, nonplastic; very few coarse roots, very few medium roots and very few very fine and fine roots; noneffervescent; moderately acid, pH 6.

### ***Representative Pedon Location***

Map unit in which located: 29TS01—Terric Sapristels

Location in survey area: 64 degrees, 15 minutes, 19 seconds north latitude, 146 degrees, 2 minutes, 41 seconds west longitude.

### ***Range in Characteristics***

Depth to permafrost: 10 to 29 inches

*Oa horizons:*

Color—value from 2 to 3; chroma of 1 or 2

Organic matter content—60 to 95 percent

Reaction—moderately acid to neutral

*A horizon:*

Color—value from 2 to 4; chroma from 1 to 3

Texture—silt loam, very fine sandy loam, mucky silt loam, mucky very fine sandy loam

Clay content—2 to 8 percent

Silt content—32 to 50 percent

Sand content—44 to 65 percent

Organic matter content—3 to 6 percent

## **Typic Cryaquepts**

### ***Taxonomic class***

- Typic Cryaquepts

*Depth class:* shallow to very deep (10 to more than 60 inches) over sand and gravel

*Drainage class:* poorly drained

*Permeability:* moderate in the loamy surface material; rapid in the sand and gravel

*Position on landscape:* floodplains

*Parent material:* alluvium

*Slope range:* 0 to 2 percent

*Elevation:* 1,000 to 1,150 feet

### ***Representative Pedon***

Typic Cryaquept—on a 0 percent slope under bog birch shrub at 1,070 feet elevation

Oe—0 to 2 inches; reddish gray (5YR 5/2) moderately decomposed organic matter; many very fine to medium roots; very strongly acid (pH 5.0); abrupt smooth boundary

Oa—2 to 4 inches; black (10YR 2/1) muck; many very fine to medium roots; strongly acid (pH 5.4); abrupt wavy boundary.

Bg1—4 to 9 inches; bluish gray (5BG 4/1) silt loam; common medium prominent strong brown (7.5YR 5/6) mottles; weak thin platy structure; very friable; nonsticky and nonplastic; common very fine to medium roots; slightly acid (pH 6.5); abrupt irregular boundary

Bw1—9 to 13 inches; dark brown (7.5YR 4/4) silt loam; bluish gray (5BG 4/1) root channel linings; many medium faint dark brown (10YR 4/3) mottles; weak thin platy structure; very friable; nonsticky and nonplastic; few very fine and fine roots; neutral (pH 7.1); gradual smooth boundary

Bw2—9 to 39 inches; dark brown (10YR 4/3) silt loam; olive gray (5Y 4/2) root channel linings; many medium faint dark brown (7.5YR 4/4) mottles; weak thin platy structure; very friable; slightly sticky and nonplastic; few fine roots; mildly alkaline (pH 7.6); clear wavy boundary

Bg2—39 to 59 inches; olive gray (5Y 4/2) and dark brown (10YR 4/3) silt loam; many large faint dark brown (7.5YR 4/4) mottles; moderate medium platy structure; very friable; slightly sticky and nonplastic; mildly alkaline (pH 7.6); clear wavy boundary

Bg3—59 to 65 inches; dark gray (5Y 4/1) silt loam; common fine prominent brown (7.5YR 5/4) mottles; weak thin platy structure; very friable; slightly sticky and nonplastic; mildly alkaline (pH 7.6); abrupt smooth boundary

2C—65 to 69 inches; very dark grayish brown (10YR 3/2) very gravelly sand; many large prominent dark brown (7.5YR 4/4) mottles; single grain; loose; mildly alkaline (pH 7.5); nonsticky and nonplastic

### ***Representative Pedon Location***

*Map unit in which located:* 202—Aquic Eutrocryepts-Typic Cryaquepts complex

*Location:* Gerstle River Area, Alaska Soil Survey; NE 1/4 of the SE 1/4, Section 28, T.10S., R.13E. Lab sample S91AK-240-001

### ***Range in Characteristics***

*Thickness of the organic mat:* 3 to 10 inches

*Depth to sand and gravel:* 10 to more than 60 inches from the mineral soil surface

*Depth to seasonally high water table:* 0 to 3 feet

*O horizon:*

Color—hue of 7.5YR or 10YR; value moist of 2 or 3; chroma moist of 1 or 2

Reaction—5.0 to 6.2

*Bg horizon:*

Color—hue of 2.5Y, 5Y, N, or 10YR; value moist of 3 to 5; chroma moist of 0 to 3

Texture—silt loam, loamy very fine sand, loamy fine sand, fine sandy loam, sand

Rock fragments—0 to 20 percent

Reaction—6.6 to 7.0

*2C horizon:*

Color—variegated

Texture—extremely gravelly sand, very gravelly sand

Rock fragments—40 to 60 percent

**MLRA 231****Histels*****Taxonomic Classification***

- Histels

***Setting***

*Depth class:* shallow to moderately deep over permafrost

*Drainage class:* very poorly drained

*Landform:* flood plains and terraces

*Parent material:* organic matter over alluvium and/or loess

*Slope:* 0 to 7 percent

*Elevation:* 400 to 1,200 feet

*Precipitation:* 10 to 14 inches

*Average annual temperature:* 26 degrees F

***Representative Pedon Location***

*Map unit in which located:* 136—Histels

*Location:* Greater Fairbanks Area, Alaska Soil Survey; NE¼, SE¼, Section 13, T1N, R2W, Fairbanks Meridian

***Representative Pedon***

Histels—on a level slope at 426 feet elevation, under sparse black spruce, birch scrub, and sedge tussock

Oi—0 to 12 inches; black (10YR 2/1) peat; common medium and few fine roots; very strongly acid (pH 4.8); clear smooth boundary.

Oe—12 to 16 inches; very dark brown (10YR 2/2) mucky peat; moderately acid (pH 5.6); abrupt smooth boundary.

Oef—16 to 26 inches; very dark brown (10YR 2/2) permanently frozen mucky peat; moderately acid (pH 5.6); clear smooth boundary.

Cfg—26 to 36 inches; very dark gray (2.5Y 3/1) permanently frozen silt loam; strongly acid (pH 5.5).

### ***Range in Characteristics***

*Depth to permafrost:* 16 to 24 inches

*Organic layer thickness:* greater than 16 inches

*O horizon:*

Color—hue from 5YR to 10YR; value from 2 to 5; chroma from 1 to 6

Texture—peat, mucky peat, or muck

Reaction—extremely acid to moderately acid

*Cg horizon (when present):*

Color—hue of 10YR or 2.5Y; value from 3 to 5; chroma of 1 or 2

Texture—silt loam, mucky silt loam, silty clay loam or loamy fine sand

Reaction—moderately acid or slightly acid

## **Terric Cryofibrists**

### ***Taxonomic Classification***

- Terric Cryofibrists

### ***Setting***

*Depth class:* very deep

*Drainage class:* very poorly drained

*Landform:* depressions on flood plains and terraces

*Parent material:* organic matter over alluvium

*Slope:* 0 to 1 percent

*Elevation:* 400 to 1,201 feet

*Precipitation:* 10 to 14 inches

*Average annual temperature:* 26 degrees F

### ***Representative Pedon Location***

*Map unit in which located:* 136—Histels

*Location:* Greater Fairbanks Area, Alaska Soil Survey; UTM zone 6, 456439 m N, 717151 m E

### ***Representative Pedon***

Terric Cryofibrist—in a level depression at 426 feet elevation, under sedges:

Oi1—0 to 10 inches; very dark brown (10YR 2/2) peat; many very fine to medium roots; moderately acid (pH 5.8); gradual smooth boundary.

C/Oi—10 to 12 inches; very dark gray (10YR 3/1) peaty silt loam; massive; slightly sticky and slightly plastic; many very fine to medium roots; slightly acid (pH 6.2); gradual smooth boundary.

Oi2—12 to 28 inches; very dark brown (10YR 2/2) peat; many very fine to medium roots; slightly acid (pH 6.2); clear smooth boundary.

Oa—28 to 40 inches; black (10YR 2/1) muck; slightly acid (pH 6.2); clear smooth boundary.

Cg—40 to 72 inches; black (5Y 2.5/1) mucky silty clay loam; massive; sticky and plastic; neutral (pH 6.6).

### ***Range in Characteristics***

*Organic layer thickness:* 16 to 51 inches

*Note:* Particle size class of mineral layers is coarse-silty or fine-silty.

*O horizon:*

Color—value of 2 or 3; chroma from 1 to 3

Reaction—very strongly acid to neutral

*Cg horizon:*

Color—hue of 2.5Y, 5Y, 10Y, 5GY, or N; value from 2 to 4; chroma from 0 to 2

Texture—silt loam, very fine sandy loam, silty clay loam, or mucky or peaty variants of these textures

Reaction—moderately acid to neutral

## **Typic Cryaquents**

### ***Taxonomic Classification***

- Typic Cryaquents

*Depth class:* very deep (more than 60 inches)

*Drainage class:* very poorly drained

*Permeability:* rapid in the organic mat; moderate in the sand and silt

*Position on landscape:* floodplains

*Parent material:* alluvium

*Slope range:* 0 to 2 percent

*Elevation:* 1,000 to 1,100 feet

### ***Representative Pedon***

Typic Cryaquent—on a 0 percent slope under sedge-grass, wet meadow at 1,025 feet elevation

Oe—0 to 5 inches; dark brown (7.5YR 3/2) moderately decomposed organic matter; common fine roots; slightly acid (pH 6.2); abrupt smooth boundary

C1—5 to 6 inch; gray (5Y 5/1) and dark yellowish brown (10YR 4/6) silty clay loam; massive; slightly sticky and slightly plastic; common very fine roots; slightly acid (pH 6.4); abrupt smooth boundary

C2—6 to 12 inches; gray (5Y 5/1) and dark yellowish brown (10YR 4/6) sand; single grain; nonsticky and nonplastic; few very fine to fine roots; slightly acid (pH 6.4); clear smooth boundary

C3—12 to 30 inches; dark gray (N 4/0) sand; single grain; nonsticky and nonplastic; neutral (pH 6.6); clear wavy boundary

Oab—30 to 33 inches; black (N 2/0) highly decomposed organic matter; neutral (pH 6.6); clear smooth boundary

C4—33 to 65 inches; dark gray (5Y 4/1) stratified silt loam to loamy fine sand; massive; slightly sticky and slightly plastic; neutral (pH 6.6); few fine roots

***Representative Pedon Location***

*Map unit in which located:* 203—Aquic Cryofluvents-Typic Cryaquents complex

*Location:* Gerstle River Area, Alaska Soil Survey; NE 1/4 of the NW 1/4, Section 35, T.9S., R.11E. Transect 91DS522, hole 4

***Range in Characteristics***

*Thickness of the organic mat:* 2 to 6 inches

*Depth to sand and gravel:* more than 40 inches from the mineral soil surface

*Depth to seasonally high water table:* 0 to 2 feet

*O horizon:*

Color—hue of 7.5YR or 10Y; value moist of 2 or 3; chroma moist of 1 or 2

Reaction—5.0 to 6.2

*C horizon:*

Color—hue of 10YR, 2.5Y, 5Y, 5GY, or N; value moist of 4 or 5; chroma moist of 0 to 6

Texture—stratified sand, fine sand, loamy very fine sand, silt loam, and silty clay loam

Reaction—6.4 to 7.4

*2C horizon (where present):*

Color—variegated

Texture—very to extremely gravelly sand, or sand

## Formation of the Soils

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All soils result from the interaction of five major soil-forming processes (Jenny 1941). These factors are (1) parent material, (2) climate, (3) plants and animals, (4) relief, and (5) time. The characteristics of a soil at any given point on the landscape reflect how these soil forming-factors interacted at that point.

Climate, plants and animals represent the active factors of soil formation. They act on the parent material that has accumulated from the weathering of rocks or erosion and deposition of geologic materials. The impacts of climate, plants and animals slowly change the parent material into a natural body with genetically related horizons. The effects of climate, plants and animals are conditioned by relief. The soils in low-lying areas of the Greater Delta Area, for example, are quite different from those on the well-drained uplands because they have a permanently high water table. Finally, time is required for the changing of parent materials into a soil. Soils are dynamic and are constantly changing over time. Should any of the soil-forming factors suddenly change, for example, new parent material deposited by flooding or changes in vegetation due to wildfire, the soil will begin to alter and develop new characteristics.

### Parent Material

Parent material is the source material from which a soil forms. Parent material may be bedrock materials weathering in-place, or weathered geologic materials that have been transported and deposited due to gravity, water movement or high winds. In areas with thick accumulations of decomposing vegetative material, the organic material itself represents the parent material of the soil.

The soils in the Interior Alaska Lowlands MLRA portion of the Greater Delta Area formed mainly in alluvial material and loess. The underlying soil material is dominantly coarse textured alluvium containing sands, gravels, and cobbles deposited by glacial streams. Overlying this is varying thicknesses of finer-textured alluvium from fluvial processes or windblown silts. Both the finer-textured alluvium and the loess contain significant amounts of mica due to their ultimate origin from micaceous schist bedrock occurring in the Interior Alaska Uplands. These materials have been highly weathered through fluvial and glacial processes and then subsequently re-deposited by either fluvial or wind-action. Chena, Piledriver, and Eielson soils are examples of soils formed in finer-textured alluvium overlying coarse-textured alluvium. Beales and Lupine family soils are examples of loess overlying eolian sands.

The soils in the Interior Alaska Uplands MLRA portion of the Greater Delta Area formed mainly in material weathered from schist and granitic bedrocks. Much of this material has been transported downslope by gravity and redeposited as colluvium. These upland areas are blanketed by a surface layer of loess which increases in thickness nearer to the large floodplains which serve as the source. Steese soils, on hills, are an example of soils formed in loess materials overlying weathered bedrock.

Vegetative materials, in varying stages of decomposition, have accumulated in wet depressional areas throughout the Greater Delta Area. These thick peat deposits are the parent materials for the organic soils such as Histels, which occur in these depressions.

## Climate

The Greater Delta Area has a continental climate characterized by long, cold winters and short, warm summers. The total annual precipitation is about 12 inches (30 cm), about half of which occurs as rain during the summer months. Winds are light in the northwestern part of the survey area, but strong winds are common during all months in the southeastern part. Uncultivated, well-drained soils are generally moist throughout the summer, but they will dry during summers that have low rainfall. The soils in most cleared fields are deficient in moisture during part of each summer. The cold climate of the survey area results in the presence of permafrost in many of the uncultivated soils of the survey area. The presence or absence of permafrost in any given soil is strongly related to the interaction of climate with the vegetative community and relief associated with the soil, as well as the texture and moisture content of the soil. The presence of permafrost and its depth below the soil surface is highly dependant on the thickness and insulating properties of the overlying vegetation, especially the organic surface horizon.

## Plants and Animals

All of the well-drained soils and most of the moderately well-drained soils in the Greater Delta Area formed under vegetation that consists mainly of paper birch, quaking aspen, and white spruce. This includes the Fairbanks, Steese, and Gilmore soils. The somewhat poorly drained soils such as Audrey family support stunted stands of paper birch, quaking aspen, and white spruce that are mixed with black spruce, tamarack, and willow. These poorer drained soils also have a thicker understory cover of grasses, low shrubs, and moss. The poorly and very poorly drained soils such as Chatanika and Goldstream may support very sparse, stunted stands of black spruce or be treeless. The understory cover is a thick mat of mosses, sedges, tussocks, and low shrubs.

The drainage characteristics and moisture properties in many of the soils is controlled by the presence or absence of permafrost. The permafrost, in turn, is highly dependant on the insulating properties of the overlying vegetation. If the vegetation, especially the surface organic mat, is disturbed, the presence of permafrost and the associated moisture and drainage characteristics of the soil may dramatically change. Generally, surface organic layers are thicker on permafrost soils but the forest overstory, if present, is relatively less productive or even stunted. Soils without permafrost will have thinner surface organic layers but a relatively productive forest overstory.

Cultural impacts, or the impacts of man, must be considered as part of the plants and animals soil forming factor. Land clearing and subsequent agricultural and infrastructure practices have altered the vegetative communities, the presence of permafrost, soil moisture status, and soil drainage characteristics of soils.

## Relief

Relief impacts soil formation in the Greater Delta Area through the effects of slope shape (concave vs. convex), slope aspect, and slope steepness. Slope shape and aspect have strong influence on the moisture status and drainage characteristics of soils within the survey area. Soils on north-facing slopes receive much less heat from the sun than soils on south-facing slopes. As a result, the north-facing soils are cooler, more moist, have thicker insulating organic surfaces, and are likely to be underlain by



permafrost which will impede drainage. Ester soils are examples of such north-facing soils. In contrast, soils that are south-facing are warmer, drier, with thinner insulating organic surfaces, and generally lack permafrost (*Krause, H.H. et al 1959*).

Soils occurring in concave landform positions or depressions will accumulate more moisture than soils on plane positions, and significantly more moisture than soils on convex positions. Correspondingly, the surface vegetative mat will be thick in concave positions and may accumulate thick enough to effectively serve as the soil parent material. The thicker organic surfaces often provide enough insulation to maintain the presence of permafrost, resulting in impeded drainage. Goldstream soils occur in depressional area, have thick organic layers, permafrost, and are poorly drained. Tanana soils are on low-lying plane positions where the insulating organic surface layers are thick enough to maintain permafrost and the soils are poorly drained. Jarvis and Salchaket soils are on convex levee positions and are relatively dry and well drained, with thinner organic mats, and no permafrost.

## Time

The degree of formation of a soil profile, evidenced by distinct soil horizons, is dependant on the amount of time a parent material has interacted with the other soil forming factors. Relatively young soils have few or faint genetic horizons while relative older soils will have distinct, clear horizons.

Only the southeastern part of the Greater Delta Area has been glaciated, but all soils in the area have most likely developed since the maximum glacial advance from the Alaska Range to the south. Soils formed in the uplands and on the outwash plains are no longer experiencing active loess deposition. These soils such as Fairbanks, Steese, and Gilmore are considered mature and have distinct horizonation. Soils such as Chena and Eielson are forming in recent fluvial deposits along the floodplains and alluvial terraces. These soils are relatively young and have weak horizonation.



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# Glossary

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**Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alluvial fan.** The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

**Alluvium.** Material, such as sand, silt, or clay, deposited on land by streams.

**Alpha,alpha-dipyridyl.** A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

**Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.

**Aspect.** The direction in which a slope faces.

**Association, soil.** A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

**Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low .....	0 to 3
Low.....	3 to 6
Moderate.....	6 to 9
High.....	9 to 12
Very high.....	more than 12

**Backslope.** The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

**Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

**Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

**Boulders.** Rock fragments larger than 2 feet (61 cm) in diameter.

**Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

**Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

**Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at

neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

**Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 cm) along the longest axis. A single piece is called a channer.

**Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

**Coarse textured soil.** Sand or loamy sand. Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 cm) in diameter.

**Cobbly soil material.** Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 cm) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

**COLE (coefficient of linear extensibility).** See Linear extensibility.

**Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

**Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

**Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

**Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

**Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

**Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

**Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches (152 cm) deep over bedrock; deep soils, 40 to 60 inches (102 to 152 cm); moderately deep, 20 to 40 inches (51 to 102 cm); shallow, 10 to 20 inches (25 to 51 cm); and very shallow, less than 10 inches (25 cm).

**Drainage class (natural).** Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained*, *somewhat excessively drained*, *well drained*, *moderately well drained*, *somewhat poorly drained*, *poorly drained*, and *very poorly drained*. These classes are defined in the *Soil Survey Manual*.

**Drainage, surface.** Runoff, or surface flow of water, from an area.

**Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

**Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters (7 ft) are saturated.

**Eolian soil material.** Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

**Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters (7 ft) of the surface.

**Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

*Erosion* (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

*Erosion* (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

**Esker.** A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

**Fan terrace.** A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

**Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

**Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

**Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.

**Fine textured soil.** Sandy clay, silty clay, or clay.

**Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

**Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 cm) long.

**Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

**Fluvial.** Of or pertaining to rivers; produced by river action, as a fluvial plain.

**Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

**Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

**Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

**Glacial drift.** Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

**Glacial outwash.** Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

**Glacial till.** Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

**Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

**Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

**Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 mm to 7.6 cm) in diameter. An individual piece is a pebble.

**Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 cm) in diameter.

**Ground ice.** Term used to denote bodies of more or less clear ice in permanently frozen ground. Ground ice may occur as segregated ice, disseminated ice, and massive ice.

**Ground water.** Water filling all the unblocked pores of the material below the water table.

**Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

**Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

**Hemic soil material (mucky peat).** Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

**Hill.** A natural elevation of the land surface, rising as much as 1,000 feet (305 m) above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

**Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

*O horizon*—An organic layer of fresh and decaying plant residue.

*A horizon*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

*E horizon*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.



**B horizon**—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

**C horizon**—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

**Cr horizon**—Soft, consolidated bedrock beneath the soil.

**R layer**—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**Hydrologic soil groups.** Refers to soils grouped according to their runoff potential.

The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Intake rate.** The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2.....	very low
0.2 to 0.4.....	low
0.4 to 0.75.....	moderately low
0.75 to 1.25.....	moderate
1.25 to 1.75.....	moderately high
1.75 to 2.5.....	high
More than 2.5 .....	very high

**Kame.** An irregular, short ridge or hill of stratified glacial drift.

**K<sub>sat</sub>.** Saturated hydraulic conductivity. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the *Soil Survey Manual*. In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be

expressed as "permeability." The conversion of  $K_{\text{sat}}$  rates to "permeability" rates is shown below:

Permeability	Saturated Hydraulic Conductivity	$K_{\text{sat}}$ Class
in/hr	in/hr	
< 0.0015	< .001417	Very Low
0.06	.01417	Low
0.2	.1417	Mod. Low
0.6	1.417	Mod. High
2.0	14.17	High
6.0	141.7	Very High
20.0		
100		

**Lacustrine deposit.** Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

**Linear extensibility.** Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at  $1/3$ - or  $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

**Liquid limit.** The moisture content at which the soil passes from a plastic to a liquid state.

**Loam.** Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

**Loess.** Fine grained material, dominantly of silt-sized particles, deposited by wind.

**Low strength.** The soil is not strong enough to support loads.

**Masses.** Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

**Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.

**Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

**Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.

**Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.

**Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.

**Moraine.** An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

**Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

**Mottles, soil.** Irregular spots of different colors that vary in number and size.

Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 in); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 in); and *coarse*, more than 15 millimeters (about 0.6 in).

**Mountain.** A natural elevation of the land surface, rising more than 1,000 feet (305 m) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

**Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

**Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

**Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

**Nodules.** Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

**Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

**Organic matter.** Plant and animal residue in the soil in various stages of decomposition.

**Outwash plain.** A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

**Pan.** A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

**Parent material.** The unconsolidated organic and mineral material in which soil forms.

**Peat.** Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

**Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pedon.** The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square m to 10 square m), depending on the variability of the soil.

**Percolation.** The movement of water through the soil.

**Permafrost.** Layers of soil, or even bedrock, occurring in arctic or subarctic regions, in which a temperature below freezing has existed continuously for two or more years.

**Permeability.** See  $K_{sat}$  (Saturated hydraulic conductivity).

**Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

**pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid.....	less than 3.5
Extremely acid .....	3.5 to 4.4
Very strongly acid .....	4.5 to 5.0
Strongly acid .....	5.1 to 5.5
Moderately acid .....	5.6 to 6.0
Slightly acid.....	6.1 to 6.5
Neutral .....	6.6 to 7.3
Slightly alkaline .....	7.4 to 7.8
Moderately alkaline.....	7.9 to 8.4
Strongly alkaline .....	8.5 to 9.0
Very strongly alkaline.....	9.1 and higher

**Redoximorphic concentrations.** Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

**Redoximorphic depletions.** Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

**Redoximorphic features.** Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

**Reduced matrix.** A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

**Relief.** The elevations or inequalities of a land surface, considered collectively.

**Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

**Riverwash.** Unstable areas of sandy, silty, clayey, or gravelly sediments. These areas are flooded, washed, and reworked by rivers so frequently that they support little or no vegetation.

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

**Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

**Sandstone.** Sedimentary rock containing dominantly sand-sized particles.

**Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

**Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

**Sedimentary rock.** Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

**Series, soil.** A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

**Shale.** Sedimentary rock formed by the hardening of a clay deposit.

**Shoulder.** The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

**Side slope.** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

**Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

**Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

**Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

**Soil.** A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

**Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand .....	2.0 to 1.0
Coarse sand.....	1.0 to 0.5
Medium sand.....	0.5 to 0.25
Fine sand .....	0.25 to 0.10
Very fine sand .....	0.10 to 0.05
Silt .....	0.05 to 0.002
Clay .....	less than 0.002

**Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

**Stones.** Rock fragments 10 to 24 inches (25 to 60 cm) in diameter if rounded or 15 to 24 inches (38 to 60 cm) in length if flat.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

**Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

**Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 cm). Frequently designated as the "plow layer," or the "Ap horizon."

**Terrace.** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

**Terrace (geologic).** An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

**Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*, *silty clay loam*, *sandy clay*, *silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

**Thermokarst.** Subsidence of the ground caused by melting of ground ice.

**Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

**Toeslope.** The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

**Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

**Tussock.** A small mound, typically 0.5 to 1 foot (15 to 30 cm) high, consisting of densely packed dead parts of sedges or grasses.

**Upland.** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

**Weathering.** All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

**Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

## Tables

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**Table 1. Temperature and Precipitation at Big Delta, Alaska**

TAPS Station: BIG DELTA FAA/AMOS AP, AK0770

Start yr. - 1971 End yr. - 2000

Temperature: 30 years available out of 30 requested in this analysis

Precipitation: 28 years available out of 30 requested in this analysis

Month	Temperature (Degrees F.)						Precipitation (Inches)				
	average daily max.	average daily min.	average	2 yrs in 10 will have		average number of grow degree days*	average	2 years in 10 will have		average number of days with .1 or more	average total snow fall
				max. temp. >than	min. temp. <than			less than	more than		
January	4.1	-9.9	-2.9	43	-54	0	0.31	0.09	0.51	0	4.9
February	11.2	-5.6	2.8	45	-46	0	0.40	0.11	0.56	1	6.0
March	25.1	3.0	14.0	49	-34	1	0.21	0.03	0.33	0	3.5
April	42.3	21.6	32.0	64	-14	30	0.21	0.03	0.36	0	2.2
May	57.9	37.5	47.7	77	21	240	0.82	0.26	1.29	2	0.7
June	67.1	47.5	57.3	83	33	505	2.49	1.50	3.38	7	0.0
July	70.3	51.1	60.7	85	36	623	2.76	1.59	3.86	7	0.0
August	64.8	46.1	55.5	83	28	468	2.16	1.30	2.99	6	0.0
September	53.3	35.7	44.5	70	10	181	0.97	0.51	1.43	3	1.7
October	31.1	17.6	24.3	56	-19	14	0.75	0.30	1.17	2	11.6
November	13.5	-0.7	6.4	42	-36	0	0.58	0.13	0.91	2	11.0
December	7.2	-7.2	0.0	45	-44	0	0.33	0.08	0.56	1	6.2
Yearly :	—	—	—	—	—	—	—	—	—	—	—
Average	37.3	19.7	28.5	—	—	—	—	—	—	—	—
Extreme	90	-59	—	87	-54	—	—	—	—	—	—
Total	—	—	—	—	—	2062	12.01	8.78	14.31	31	47.9

Average number of days per year with at least 1 inch of snow on the ground: 183

\* Growing Degree Day units are computed as the difference between the daily average temperature and the base temperature. (Daily Ave. Temp. - Base Temp.) One unit is accumulated for each degree Fahrenheit the average temperature is above the base temperature. Negative numbers are discarded. Example: If the days high temperature was 95 and the low temperature was 51, the base 60 heating degree day units is  $((95 + 51) / 2) - 60 = 13$ . This is done for each day of the month and summed.



**Table 2. Probability of frost at Big Delta, Alaska**

FROST Station: BIG DELTA FAA/AMOS AP, AK0770

Start yr. - 1961 End yr. - 1990

Probability	Temperature		
	24° F or lower	28° F or lower	32° F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	May 26	June 1	June 10
2 year in 10 later than--	May 18	May 25	June 3
5 year in 10 later than--	May 2	May 11	May 21
First freezing temperature in fall:			
1 yr in 10 earlier than--	September 13	August 26	August 20
2 yr in 10 earlier than--	September 17	September 1	August 24
5 yr in 10 earlier than--	September 25	September 12	September 1

**Table 3. Acreage and Proportionate Extent of the Soils**

(An asterisk (\*) under "Percent" indicates less than 0.1 percent)

Map symbol	Map unit name	Acres	Percent
28BU01	Butchlake-Southpaw-Salchaket family complex, 1 to 50 percent slopes	3,495	0.8
28SP01	Southpaw-Butchlake complex, 3 to 12 percent slopes	6,810	1.6
28SP02	Southpaw-Butchlake complex, 5 to 20 percent slopes	1,500	0.4
28TE01	Terric Hemistels-Typic Aquiturbels-Water complex, 0 to 3 percent slopes	300	*
29AE01	Aquic Haplocrypts-Typic Cryaquepts complex	1,436	0.3
29CH01	Chena very fine sandy loam	285	*
29EL01	Eielson-Piledriver, occasionally flooded, complex	5,118	1.2
29EL02	Eielson, rarely flooded-Tanana complex	619	0.1
29FU01	Fubar-Piledriver complex, occasionally flooded	258	*
29GE01	Gerstle-Moosehead complex, 0 to 3 percent slopes	30,184	7.2
29GE02	Gerstle-Tanana complex	6,673	1.6
29GE04	Gerstle-Tanacross families complex, 0 to 4 percent slopes	6,425	1.5
29JV01	Jarvis very fine sandy loam	3,351	0.8
29JV02	Jarvis very fine sandy loam, occasionally flooded	337	*
29JV04	Jarvis-Salchaket complex	10,512	2.5
29JV05	Jarvis-Salchaket complex, occasionally flooded	552	0.1
29KU01	Koyukuk-Audrey family complex	8,250	2.0
29KZ01	Iksgiza-Histels complex, 0 to 15 percent slopes	1,700	0.4
29KZ02	Iksgiza-Lupine, sandy, complex, 1 to 15 percent slopes	855	0.2
29LS03	Liscum-Terric Cryohemist complex, 0 to 1 percent slopes	5,047	1.2
29LU01	Lupine very fine sandy loam	8,071	1.9
29LU02	Lupine family-Beales complex, 0 to 3 percent slopes	2,306	0.6
29LU03	Lupine family-Beales complex, 3 to 12 percent slopes	9,536	2.3
29LU04	Lupine family-Bohica-Iksgiza complex, 4 to 20 percent slopes	2,336	0.6
29LU05	Lupine-Jarvis complex	10,903	2.6
29MH01	Moosehead family-Nenana complex, 3 to 10 percent slopes	2,047	0.5
29NE01	Nenana silt loam, 0 to 3 percent slope	36,877	8.8
29NE03	Nenana-Donnelly complex, 0 to 3 percent slopes	8,774	2.1
29PL01	Eielson, rarely flooded-Piledriver complex	3,540	0.8
29PT01	Pits, gravel	182	*
29PT02	Pits, quarry	16	*
29RC01	Richardson-Salchaket complex, 0 to 3 percent slopes	1,178	0.3
29SA01	Sawmill Creek silt loam	4,108	1.0
29SC01	Salchaket-Hogan families complex, 1 to 4 percent slopes	1,101	0.3
29SC02	Salchaket very fine sandy loam	19,292	4.6
29SC03	Salchaket very fine sandy loam, occasionally flooded	2,338	0.6
29TC01	Tanacross peat	5,815	1.4
29TC02	Tanacross family-Moosehead complex, 0 to 5 percent slopes	3,357	0.8
29TC03	Tanacross, occasionally flooded-Histels association	15,868	3.8
29TN01	Tanana silt loam	6,817	1.6
29TS01	Terric Sapristels	2,680	0.6
29VM01	Volkmar silt loam	6,103	1.5
29WR01	Water-Riverwash complex	44,089	10.6
31AN02	Angel-McCloud complex, 15 to 40 percent slopes	140	*
31AN03	Angel-McCloud complex, 3 to 15 percent slopes	1,299	0.3
31BR01	Brigadier-Ester complex, 15 to 45 percent slopes	702	0.2
31BR02	Brigadier-Ester complex, 45 to 70 percent slopes	450	0.1
31BR08	Brigadier and Manchu silt loams, 3 to 15 percent slopes	546	0.1
31BR09	Brigadier and Manchu silt loams, 3 to 45 percent slopes	491	0.1
31CH04	Chatanika-Goldstream complex, 0 to 5 percent slopes	10,520	2.5
31ES01	Ester peat, 20 to 45 percent slopes	2,247	0.5
31FA02	Fairbanks silt loam, 7 to 12 percent slopes	1,444	0.3
31FA03	Fairbanks silt loam, 12 to 20 percent slopes	3,627	0.9
31FA04	Fairbanks silt loam, 20 to 30 percent slopes	701	0.2
31FA05	Fairbanks silt loam, 30 to 45 percent slopes	1,597	0.4
31FA07	Fairbanks silt loams, gullied, 7 to 70 percent slopes	6,709	1.6
31FA11	Fairbanks-Steese complex, 20 to 30 percent slopes	1,952	0.5
31GD01	Goldstream peat, 0 to 3 percent	6,367	1.5
31GD02	Goldstream peat, 3 to 7 percent slopes	3,226	0.8

Table 3. Acreage and Proportionate Extent of the Soils—Continued

Map symbol	Map unit name	Acres	Percent
31GD03	Goldstream-Histels complex	1,109	0.3
31GL02	Gilmore silt loam, 7 to 12 percent slopes	1,243	0.3
31GL03	Gilmore silt loam, 12 to 20 percent slopes	3,178	0.8
31GL04	Gilmore silt loam, 20 to 30 percent slopes	603	0.1
31GL05	Gilmore silt loam, 30 to 45 percent slopes	3,622	0.9
31GL06	Gilmore silt loam, 45 to 70 percent slopes	161	*
31HA01	Happy silt loam, 1 to 7 percent slopes	2,642	0.6
31MC01	McCloud silt loam, 12 to 20 percent slopes	1,692	0.4
31MC02	McCloud silt loam, 20 to 30 percent slopes	2,715	0.7
31MC03	McCloud-Fairbanks complex, 15 to 40 percent slopes	2,589	0.6
31MN01	Minto silt loam, 0 to 3 percent slopes	643	0.2
31MN02	Minto silt loam, 3 to 7 percent slopes	4,053	1.0
31MN03	Minto silt loam, 7 to 12 percent	3,012	0.7
31MN04	Minto silt loam, 12 to 20 percent slopes	672	0.2
31MN05	Minto-Chatanika complex, 0 to 3 percent slopes	1,016	0.2
31MN06	Minto-Chatanika complex, 3 to 7 percent slopes	5,800	1.4
31MN07	Minto-Chatanika complex, 7 to 12 percent slopes	933	0.2
31RS01	Rosie silt loam, 15 to 90 percent slopes	1,411	0.3
31SA06	Saulich-Minto complex, 7 to 12 percent slopes	2,228	0.5
31SA08	Saulich-Chatanika complex, 3 to 7 percent slopes	7,089	1.7
31SR02	Strelna very fine sandy loam, 12 to 20 percent slopes	757	0.2
31SR03	Strelna very fine sandy loam, 20 to 50 percent slopes	166	*
31SR04	Strelna very fine sandy loam, 7 to 12 percent slopes	754	0.2
31SR05	Strelna-Toghotthele complex 10 to 40 percent slopes	543	0.1
31ST01	Steese silt loam, 3 to 7 percent slopes	219	*
31ST02	Steese silt loam, 7 to 12 percent slopes	4,323	1.0
31ST03	Steese silt loam, 12 to 20 percent slopes	6,763	1.6
31ST04	Steese silt loam, 20 to 30 percent slopes	5,858	1.4
31ST05	Steese silt loam, 30 to 45 percent slopes	2,414	0.6
31ST06	Steese silt loam, 45 to 70 percent slopes	129	*
31ST08	Steese-Gilmore complex, 12 to 20 percent slopes	4,563	1.1
31ST09	Steese-Gilmore complex, 20 to 30 percent slopes	705	0.2
31ST10	Steese-Gilmore complex, 30 to 45 percent slopes	728	0.2
31ST11	Steese-Gilmore complex, 45 to 70 percent slopes	308	*
31TG01	Toghotthele silt loam, 20 to 90 percent slopes	294	*
31TG02	Toghotthele-Fairbanks complex, 12 to 20 percent slopes	1,200	0.3
31TG03	Toghotthele-Fairbanks complex, 12 to 50 percent slopes	1,121	0.3
31TG04	Toghotthele-Fairbanks complex, 20 to 40 percent slopes	233	*
31TG05	Toghotthele-Fairbanks complex, 7 to 12 percent slopes	201	*
R29WAA	Interior Alaska Lowlands, Water	6,809	1.6
R31WAA	Interior Alaska Highlands, Water	72	*
	Total-----	417,630	100.0

**Table 4. Engineering Index Properties**

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
28BU01:						
28-Butchlake-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-4	Silt loam, mucky silt loam	ML, OL	A-4	30-40	NP-5
	4-9	Very gravelly sandy loam, extremely gravelly coarse sandy loam, cobbly sandy loam	GP, GW-GM	A-1	0-15	NP-5
	9-72	Extremely gravelly sandy loam, very cobbly sandy loam	GP-GM, GM	A-1	0-15	NP-5
28-Southpaw-----	0-4	Slightly decomposed plant material	PT	A-8	---	---
	4-13	Very fine sandy loam, silt loam	ML	A-4	30-40	NP-5
	13-22	Very fine sandy loam, fine sandy loam	ML, SM	A-2, A-4	15-25	NP-5
	22-36	Gravelly fine sandy loam, gravelly sandy loam	ML, SM	A-4, A-2	15-25	NP-5
	36-72	Extremely gravelly loamy sand, very gravelly sandy loam	GW-GM, GP-GM	A-1	0-10	NP-3
28-Salchaket family ----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-14	Sand	SP-SM, SM	A-2, A-3	0-0	NP
	14-15	Highly decomposed plant material	PT	A-8	---	---
	15-72	Stratified coarse sand to fine sandy loam, stratified loamy sand to very fine sandy loam, stratified gravelly sand to fine sandy loam	SM	A-4, A-2	0-10	NP-5
28SP01:						
28-Southpaw-----	0-4	Slightly decomposed plant material	PT	A-8	---	---
	4-13	Very fine sandy loam, silt loam	ML	A-4	30-40	NP-5
	13-22	Very fine sandy loam, fine sandy loam	ML, SM	A-2, A-4	15-25	NP-5
	22-36	Gravelly fine sandy loam, gravelly sandy loam	ML, SM	A-4, A-2	15-25	NP-5
	36-72	Extremely gravelly loamy sand, very gravelly sandy loam	GW-GM, GP-GM	A-1	0-10	NP-3
28-Butchlake-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-4	Silt loam, mucky silt loam	ML, OL	A-4	30-40	NP-5
	4-9	Very gravelly sandy loam, extremely gravelly coarse sandy loam, cobbly sandy loam	GP, GW-GM	A-1	0-15	NP-5
	9-72	Extremely gravelly sandy loam, very cobbly sandy loam	GP-GM, GM	A-1	0-15	NP-5
28SP02:						
28-Southpaw-----	0-4	Slightly decomposed plant material	PT	A-8	---	---
	4-13	Very fine sandy loam, silt loam	ML	A-4	30-40	NP-5
	13-22	Very fine sandy loam, fine sandy loam	ML, SM	A-2, A-4	15-25	NP-5
	22-36	Gravelly fine sandy loam, gravelly sandy loam	ML, SM	A-4, A-2	15-25	NP-5
	36-72	Extremely gravelly loamy sand, very gravelly sandy loam	GW-GM, GP-GM	A-1	0-10	NP-3
28-Butchlake-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-4	Silt loam, mucky silt loam	ML, OL	A-4	30-40	NP-5
	4-9	Very gravelly sandy loam, extremely gravelly coarse sandy loam, cobbly sandy loam	GP, GW-GM	A-1	0-15	NP-5
	9-72	Extremely gravelly sandy loam, very cobbly sandy loam	GP-GM, GM	A-1	0-15	NP-5

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
28TE01: 28-Terric Hemistels -----	0-20	Peat, mucky peat	PT	A-8	---	---
	20-24	Mucky silt loam	OL	A-4	30-50	NP-10
	24-72	Permanently frozen gravelly sandy loam, permanently frozen silt loam			---	---
28-Typic Aquiturbels -----	0-7	Moderately decomposed plant material	PT	A-8	---	---
	7-15	Very fine sandy loam	ML	A-4	25-35	NP-3
	15-33	Permanently frozen very fine sandy loam			---	---
	33-41	Permanently frozen very fine sandy loam			---	---
	41-72	Permanently frozen gravelly very fine sandy loam			---	---
28-Water -----	---	---	---	---	---	---
29AE01: 29-Aquic Haplocrypts --	0-2	Mucky silt loam	ML, MH	A-4	30-50	NP-10
	2-18	Stratified fine sand to silt loam	ML	A-4	10-15	NP-5
	18-72	Gravelly sand, extremely gravelly sand, very gravelly sand	GW, SW	A-1	0-0	NP
29-Typic Cryaquepts ----	0-5	Silt loam	ML	A-4	30-50	NP-10
	5-60	Very fine sandy loam, silt loam	ML	A-4	30-50	NP-10
29CH01: 29-Chena -----	0-4	Slightly decomposed plant material	PT	A-8	---	---
	4-9	Fine sand, fine sandy loam, stratified fine sand to silt loam	SM, ML	A-4	25-30	NP-5
	9-72	Coarse sand, sand, very gravelly sand	GP, SM, SP-SM	A-1	0-0	NP
29EL01: 29-Eielson -----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-49	Very fine sandy loam	ML	A-4	25-30	NP-5
	49-71	Stratified silt loam to fine sand	SM, ML	A-4	25-30	NP-5
	71-72	Gravelly sand, extremely gravelly sand, very gravelly sand	GP-GM	A-1	0-0	NP
29-Piledriver, occasionally flooded ----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-15	Stratified fine sand to silt loam, very fine sandy loam	ML	A-4	25-30	NP-5
	15-33	Stratified sand to fine sand to very fine sandy loam	SM	A-2	20-25	NP-5
	33-72	Sand, very gravelly sand	SM, SW, SP-SM	A-2, A-1	0-0	NP
29EL02: 29-Eielson, rarely flooded-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-49	Very fine sandy loam	ML	A-4	25-30	NP-5
	49-71	Stratified silt loam to fine sand	SM, ML	A-4	25-30	NP-5
	71-72	Gravelly sand, extremely gravelly sand, very gravelly sand	GP-GM	A-1	0-0	NP
29-Tanana-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, mucky silt loam	ML, OL	A-4	30-40	NP-10
	6-25	Very fine sandy loam	ML	A-4	25-30	NP-5
	25-72	Permanently frozen very fine sandy loam			---	---

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
29FU01: 29-Fubar, occasionally flooded ----	0-2	Slightly decomposed plant material	PT	A-8	0-0	NP
	2-10	Very fine sandy loam, stratified fine sand to silt loam	SM, ML	A-2, A-4	20-30	NP-5
	10-72	Fine sand, extremely gravelly sand, sand, very gravelly coarse sand	GW, SW-SM	A-1	0-0	NP
29-Piledriver, occasionally flooded ----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-15	Stratified fine sand to silt loam, very fine sandy loam	ML	A-4	25-30	NP-5
	15-33	Stratified sand to fine sand to very fine sandy loam	SM	A-2	20-25	NP-5
	33-72	Sand, very gravelly sand	SM, SW, SP-SM	A-2, A-1	0-0	NP
29GE01: 29-Gerstle -----	0-4	Highly decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	4-10	Silt loam, very fine sandy loam	ML	A-4	30-50	NP-10
	10-20	Fine sandy loam, very fine sandy loam	ML	A-4	25-30	NP-5
	20-30	Fine sandy loam, stratified loamy fine sand to silt loam	SM	A-4	15-30	NP-5
	30-51	Loamy sand, sandy loam, stratified sand to fine sandy loam	SM	A-2	0-0	NP
	51-72	Fine sandy loam, loamy sand, sand	SM	A-2	0-0	NP
29-Moosehead -----	0-5	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	5-7	Very fine sandy loam, silt loam	ML	A-4	30-40	NP-5
	7-20	Very fine sandy loam	ML	A-4	0-15	NP-5
	20-26	Stratified fine sandy loam to very fine sandy loam	SM	A-2, A-4	15-25	NP-5
	26-72	Very gravelly sandy loam, extremely gravelly sand, gravelly sand	GP-GM, GW, GP	A-1	0-0	NP
29GE02: 29-Gerstle -----	0-4	Highly decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	4-10	Silt loam, very fine sandy loam	ML	A-4	30-50	NP-10
	10-20	Fine sandy loam, very fine sandy loam	ML	A-4	25-30	NP-5
	20-30	Fine sandy loam, stratified loamy fine sand to silt loam	SM	A-4	15-30	NP-5
	30-51	Loamy sand, sandy loam, stratified sand to fine sandy loam	SM	A-2	0-0	NP
	51-72	Fine sandy loam, loamy sand, sand	SM	A-2	0-0	NP
29-Tanana-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, mucky silt loam	ML, OL	A-4	30-40	NP-10
	6-25	Very fine sandy loam	ML	A-4	25-30	NP-5
	25-72	Permanently frozen very fine sandy loam			---	---
29GE04: 29-Gerstle family -----	0-3	Highly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	3-7	Very fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	7-20	Silt loam, sandy loam, very fine sandy loam	SM, ML	A-4	25-35	NP-10
	20-57	Loamy sand, sand, sandy loam, stratified sand to very fine sandy loam, silt loam	SM, ML	A-2, A-4	5-35	NP-10
	57-72	Gravelly coarse sand, extremely gravelly coarse sand, very gravelly coarse sand	SW-SM, GP, SP-SM	A-1	0-0	NP

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
29GE04: 29-Tanacross family ----	0-7	Peat	PT	A-8	---	---
	7-13	Mucky peat	PT	A-8	---	---
	13-19	Very gravelly very fine sandy loam, silt loam, sandy loam, very fine sandy loam	GM, ML, SM	A-2, A-4	15-40	NP-10
	19-24	Silt loam	ML	A-4	30-40	NP-10
	24-52	Permanently frozen fine sandy loam, permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
	52-72	Permanently frozen material			---	---
29JV01: 29-Jarvis -----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-6	Stratified fine sand to silt loam, very fine sandy loam	SM, ML	A-4	25-30	NP-5
	6-24	Stratified sand to fine sand to very fine sandy loam	SC-SM, SM	A-4, A-2	20-25	NP-5
	24-72	Very gravelly sand	GP, SP-SM	A-1	0-0	NP
29JV02: 29-Jarvis, occasionally flooded ----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-6	Stratified fine sand to silt loam, very fine sandy loam	SM, ML	A-4	25-30	NP-5
	6-24	Stratified sand to fine sand to very fine sandy loam	SC-SM, SM	A-4, A-2	20-25	NP-5
	24-72	Very gravelly sand	GP, SP-SM	A-1	0-0	NP
29JV04: 29-Jarvis -----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-6	Stratified fine sand to silt loam, very fine sandy loam	SM, ML	A-4	25-30	NP-5
	6-24	Stratified sand to fine sand to very fine sandy loam	SC-SM, SM	A-4, A-2	20-25	NP-5
	24-72	Very gravelly sand	GP, SP-SM	A-1	0-0	NP
29-Salchaket-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-24	Very fine sandy loam	ML	A-4	25-30	NP-5
	24-45	Stratified silt loam to fine sand	SM, ML	A-4	25-30	NP-5
	45-72	Very gravelly sand	SP-SM, GP-GM	A-1	0-0	NP
29JV05: 29-Jarvis, occasionally flooded ----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-6	Stratified fine sand to silt loam, very fine sandy loam	SM, ML	A-4	25-30	NP-5
	6-24	Stratified sand to fine sand to very fine sandy loam	SC-SM, SM	A-4, A-2	20-25	NP-5
	24-72	Very gravelly sand	GP, SP-SM	A-1	0-0	NP
29-Salchaket, occasionally flooded ----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-24	Very fine sandy loam	ML	A-4	25-30	NP-5
	24-45	Stratified silt loam to fine sand	SM, ML	A-4	25-30	NP-5
	45-72	Very gravelly sand	SP-SM, GP-GM	A-1	0-0	NP
29KU01: 29-Koyukuk -----	0-6	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	6-34	Silt loam	ML	A-4	30-50	NP-10
	34-72	Gravelly loam, gravelly silt loam	ML, GM	A-2, A-4	25-35	NP-10

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
29KU01: 29-Audrey family-----	0-8	Slightly decomposed plant material	PT	A-8	---	---
	8-13	Very fine sandy loam	ML	A-4	25-35	NP-10
	13-26	Silt loam, very fine sandy loam	SM, ML	A-4	25-35	NP-10
	26-72	Gravelly loamy coarse sand, very gravelly fine sandy loam, very gravelly loam, gravelly very fine sandy loam	GP-GM, ML, GC-GM	A-1, A-4, A-2	5-35	NP-10
29KZ01: 29-Iksgiza-----	0-5	Mucky peat, peat	PT	A-8	---	---
	5-8	Muck	PT	A-8	---	---
	8-12	Very fine sandy loam	ML	A-4	30-40	NP-5
	12-21	Very fine sandy loam	ML	A-4	30-40	NP-5
	21-24	Permanently frozen very fine sandy loam			---	---
	24-72	Permanently frozen sand			---	---
29-Histels-----	0-18	Mucky peat, muck, peat	PT	A-8	---	---
	18-25	Silt loam, very fine sandy loam	ML	A-5, A-4	30-50	NP-10
	25-35	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
	35-72	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
29KZ02: 29-Iksgiza-----	0-5	Mucky peat, peat	PT	A-8	---	---
	5-8	Muck	PT	A-8	---	---
	8-12	Very fine sandy loam	ML	A-4	30-40	NP-5
	12-21	Very fine sandy loam	ML	A-4	30-40	NP-5
	21-24	Permanently frozen very fine sandy loam			---	---
	24-72	Permanently frozen sand			---	---
29-Lupine family-----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-7	Very fine sandy loam	ML	A-4	30-50	NP-10
	7-18	Sandy loam, very fine sandy loam	ML	A-4	25-35	NP-10
	18-25	Sandy loam, very fine sandy loam, fine sandy loam	SM	A-2, A-4	0-15	NP-5
	25-72	Coarse sand, loamy sand, sand	SM	A-2	0-0	NP
29LS03: 29-Liscum-----	0-3	Peat	PT	A-8	0-0	NP
	3-11	Muck	PT	A-8	0-0	NP
	11-15	Mucky silt loam	ML, OL	A-4	30-50	NP-10
	15-70	Stratified silt loam to loamy fine sand	ML	A-2, A-4	10-30	NP-10
	70-72	Very gravelly sandy loam	SM	A-2	0-15	NP-5
29-Terric Cryohemists---	0-3	Mucky peat, peat	PT	A-8	---	---
	3-12	Gravelly mucky peat, mucky peat	PT	A-8	---	---
	12-22	Extremely gravelly muck, muck, gravelly muck	PT	A-8	---	---
	22-72	Gravelly silt loam, very gravelly sand, very gravelly sandy loam, loamy sand, mucky silt loam, silt loam, sandy loam, extremely gravelly silt loam	SM, GP	A-2, A-4	0-50	NP-25



Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
29LU01:						
29-Lupine -----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-6	Loam, very fine sandy loam, silt loam	ML	A-4	25-35	NP-5
	6-16	Very fine sandy loam	ML	A-4	25-35	NP-5
	16-20	Fine sandy loam, very fine sandy loam	SM	A-4	10-30	NP-2
	20-72	Extremely gravelly sand, very gravelly sand	SW-SM	A-1	0-0	NP
29LU02:						
29-Lupine family -----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-7	Very fine sandy loam	ML	A-4	30-50	NP-10
	7-18	Sandy loam, very fine sandy loam	ML	A-4	25-35	NP-10
	18-25	Sandy loam, very fine sandy loam, fine sandy loam	SM	A-2, A-4	0-15	NP-5
	25-72	Coarse sand, loamy sand, sand	SM	A-2	0-0	NP
29-Beales -----	0-4	Slightly decomposed plant material	PT		---	---
	4-8	Fine sandy loam, very fine sandy loam	ML	A-4	30-50	NP-10
	8-12	Fine sandy loam, sandy loam, very fine sandy loam	SM, ML	A-4	30-40	NP-7
	12-20	Sand, loamy sand	SM	A-2	0-15	NP-5
	20-72	Coarse sand, sand	SM	A-2	0-0	NP
29LU03:						
29-Lupine family -----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-7	Very fine sandy loam	ML	A-4	30-50	NP-10
	7-18	Sandy loam, very fine sandy loam	ML	A-4	25-35	NP-10
	18-25	Sandy loam, very fine sandy loam, fine sandy loam	SM	A-2, A-4	0-15	NP-5
	25-72	Coarse sand, loamy sand, sand	SM	A-2	0-0	NP
29-Beales -----	0-4	Slightly decomposed plant material	PT		---	---
	4-8	Fine sandy loam, very fine sandy loam	ML	A-4	30-50	NP-10
	8-12	Fine sandy loam, sandy loam, very fine sandy loam	SM, ML	A-4	30-40	NP-7
	12-20	Sand, loamy sand	SM	A-2	0-15	NP-5
	20-72	Coarse sand, sand	SM	A-2	0-0	NP
29LU04:						
29-Lupine family -----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-7	Very fine sandy loam	ML	A-4	30-50	NP-10
	7-18	Sandy loam, very fine sandy loam	ML	A-4	25-35	NP-10
	18-25	Sandy loam, very fine sandy loam, fine sandy loam	SM	A-2, A-4	0-15	NP-5
	25-72	Coarse sand, loamy sand, sand	SM	A-2	0-0	NP
29-Bohica -----	0-4	Moderately decomposed plant material	PT	A-8	---	---
	4-11	Silt loam, very fine sandy loam	ML	A-4	25-35	NP-10
	11-27	Silt loam, very fine sandy loam	ML	A-4	25-35	NP-10
	27-42	Fine sandy loam, sandy loam, very fine sandy loam	ML	A-4	20-35	NP-10
	42-72	Fine sandy loam, loamy sand, sandy loam, sand	SM, SP-SM	A-2-4, A-3	0-20	NP-3

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
29LU04: 29-Iksgiza-----	0-5	Mucky peat, peat	PT	A-8	---	---
	5-8	Muck	PT	A-8	---	---
	8-12	Very fine sandy loam	ML	A-4	30-40	NP-5
	12-21	Very fine sandy loam	ML	A-4	30-40	NP-5
	21-24	Permanently frozen very fine sandy loam			---	---
	24-72	Permanently frozen sand			---	---
29LU05: 29-Lupine-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-6	Loam, very fine sandy loam, silt loam	ML	A-4	25-35	NP-5
	6-16	Very fine sandy loam	ML	A-4	25-35	NP-5
	16-20	Fine sandy loam, very fine sandy loam	SM	A-4	10-30	NP-2
	20-72	Extremely gravelly sand, very gravelly sand	SW-SM	A-1	0-0	NP
29-Jarvis-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-6	Stratified fine sand to silt loam, very fine sandy loam	SM, ML	A-4	25-30	NP-5
	6-24	Stratified sand to fine sand to very fine sandy loam	SC-SM, SM	A-4, A-2	20-25	NP-5
	24-72	Very gravelly sand	GP, SP-SM	A-1	0-0	NP
29MH01: 29-Moosehead family ---	0-3	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, very fine sandy loam	ML	A-4	30-50	NP-10
	6-7	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	7-14	Silt loam, very fine sandy loam	ML	A-4	30-50	NP-10
	14-26	Silt loam, sandy loam, very fine sandy loam, fine sandy loam	ML	A-4	12-35	NP-5
	26-72	Gravelly loamy sand, very gravelly sand, extremely gravelly coarse sand	SM, GP	A-1	0-0	NP
29-Nenana-----	0-3	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	3-6	Very fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	6-13	Silt loam, very fine sandy loam	ML	A-4	25-35	NP-10
	13-20	Gravelly sandy loam, silt loam, gravelly very fine sandy loam	GM, ML	A-4	25-35	NP-10
	20-72	Gravelly sand, extremely gravelly sand, very gravelly loamy sand	SP-SM, GW	A-1	0-0	NP
29NE01: 29-Nenana-----	0-3	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	3-6	Very fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	6-13	Silt loam, very fine sandy loam	ML	A-4	25-35	NP-10
	13-20	Gravelly sandy loam, silt loam, gravelly very fine sandy loam	GM, ML	A-4	25-35	NP-10
	20-72	Gravelly sand, extremely gravelly sand, very gravelly loamy sand	SP-SM, GW	A-1	0-0	NP

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
29NE03: 29-Nenana -----	0-3	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	3-6	Very fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	6-13	Silt loam, very fine sandy loam	ML	A-4	25-35	NP-10
	13-20	Gravelly sandy loam, silt loam, gravelly very fine sandy loam	GM, ML	A-4	25-35	NP-10
	20-72	Gravelly sand, extremely gravelly sand, very gravelly loamy sand	SP-SM, GW	A-1	0-0	NP
29-Donnelly -----	0-2	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	2-6	Very gravelly silt loam, silt loam, gravelly silt loam	SM, ML	A-4	25-35	NP-10
	6-12	Very gravelly sandy loam, extremely gravelly silt loam, gravelly silt loam	SM, GM	A-2, A-4	25-35	NP-10
	12-72	Gravelly sand, extremely gravelly loamy sand, very gravelly sand	SW-SM, GW, GP	A-1	0-0	NP
29PL01: 29-Eielson, rarely flooded-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-49	Very fine sandy loam	ML	A-4	25-30	NP-5
	49-71	Stratified silt loam to fine sand	SM, ML	A-4	25-30	NP-5
	71-72	Gravelly sand, extremely gravelly sand, very gravelly sand	GP-GM	A-1	0-0	NP
29-Piledriver -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-15	Stratified fine sand to silt loam, very fine sandy loam	ML	A-4	25-30	NP-5
	15-33	Stratified sand to fine sand to very fine sandy loam	SM	A-2	20-25	NP-5
	33-72	Sand, very gravelly sand	SM, SW, SP-SM	A-2, A-1	0-0	NP
29PT01: 29-Pits, gravel -----	---	---	---	---	---	---
29PT02: 29-Pits, quarry-----	---	---	---	---	---	---
29RC01: 29-Richardson-----	0-1	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	1-20	Very fine sandy loam, silt loam	ML	A-4	25-40	NP-10
	20-59	Gravelly sandy loam, very fine sandy loam, silt loam	SM, ML	A-4	25-40	NP-10
	59-72	Very gravelly coarse sand, extremely gravelly sand, sand, loamy sand	GP, SM	A-1, A-2	0-0	NP
29-Salchaket, occasionally flooded ----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-24	Very fine sandy loam	ML	A-4	25-30	NP-5
	24-45	Stratified silt loam to fine sand	SM, ML	A-4	25-30	NP-5
	45-72	Very gravelly sand	SP-SM, GP-GM	A-1	0-0	NP

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
29SA01: 29-Sawmill Creek-----	0-4	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	4-5	Very fine sandy loam, silt loam	ML	A-4	30-40	NP-5
	5-12	Very fine sandy loam, silt loam	ML	A-4	30-40	NP-5
	12-14	Sandy loam, fine sandy loam	SM, ML	A-4	0-15	NP-5
	14-72	Very gravelly coarse sand, very gravelly loamy sand, extremely gravelly loamy coarse sand	SM, GM	A-1	0-0	NP
29SC01: 29-Salchaket family -----	0-4	Slightly decomposed plant material	PT	A-8	---	---
	4-8	Very fine sandy loam	ML	A-4	30-50	NP-10
	8-72	Coarse sand, sand, stratified coarse sand to coarse sandy loam, stratified loamy sand to very fine sandy loam, stratified coarse sand to silt loam	ML, SM	A-4, A-2	0-35	NP-10
29-Hogan family -----	0-6	Slightly decomposed plant material	PT	A-8	---	---
	6-8	Moderately decomposed plant material, highly decomposed plant material	PT	A-8	---	---
	8-24	Loam, silt loam, very fine sandy loam	SM, ML	A-4	20-35	NP-5
	24-47	Coarse sand, very fine sandy loam, fine sandy loam	ML, SM	A-4, A-2	0-22	NP-3
	47-72	Permanently frozen material			---	---
29SC02: 29-Salchaket-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-24	Very fine sandy loam	ML	A-4	25-30	NP-5
	24-45	Stratified silt loam to fine sand	SM, ML	A-4	25-30	NP-5
	45-72	Very gravelly sand	SP-SM, GP-GM	A-1	0-0	NP
29SC03: 29-Salchaket, occasionally flooded ----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-24	Very fine sandy loam	ML	A-4	25-30	NP-5
	24-45	Stratified silt loam to fine sand	SM, ML	A-4	25-30	NP-5
	45-72	Very gravelly sand	SP-SM, GP-GM	A-1	0-0	NP
29TC01: 29-Tanacross-----	0-9	Mucky peat, muck, peat	PT	A-8	---	---
	9-11	Mucky silt loam	OL, ML	A-4	30-40	NP-10
	11-17	Very fine sandy loam, stratified fine sandy loam to silt loam	ML	A-4	0-40	NP-15
	17-48	Permanently frozen very fine sandy loam			---	---
	48-72	Permanently frozen material			---	---
29TC02: 29-Tanacross family ----	0-7	Peat	PT	A-8	---	---
	7-13	Mucky peat	PT	A-8	---	---
	13-19	Very gravelly very fine sandy loam, silt loam, sandy loam, very fine sandy loam	GM, ML, SM	A-2, A-4	15-40	NP-10
	19-24	Silt loam	ML	A-4	30-40	NP-10
	24-52	Permanently frozen fine sandy loam, permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
	52-72	Permanently frozen material			---	---

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
29TC02: 29-Moosehead -----	0-5	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	5-7	Very fine sandy loam, silt loam	ML	A-4	30-40	NP-5
	7-20	Very fine sandy loam	ML	A-4	0-15	NP-5
	20-26	Stratified fine sandy loam to very fine sandy loam	SM	A-2, A-4	15-25	NP-5
	26-72	Very gravelly sandy loam, extremely gravelly sand, gravelly sand	GP-GM, GW, GP	A-1	0-0	NP
29TC03: 29-Tanacross, occasionally flooded ----	0-9	Mucky peat, muck, peat	PT	A-8	---	---
	9-11	Mucky silt loam	OL, ML	A-4	30-40	NP-10
	11-17	Very fine sandy loam, stratified fine sandy loam to silt loam	ML	A-4	0-40	NP-15
	17-48	Permanently frozen very fine sandy loam			---	---
	48-72	Permanently frozen material			---	---
29-Histels -----	0-18	Mucky peat, muck, peat	PT	A-8	---	---
	18-25	Silt loam, very fine sandy loam	ML	A-5, A-4	30-50	NP-10
	25-35	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
	35-72	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
29TN01: 29-Tanana -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, mucky silt loam	ML, OL	A-4	30-40	NP-10
	6-25	Very fine sandy loam	ML	A-4	25-30	NP-5
	25-72	Permanently frozen very fine sandy loam			---	---
29TS01: 29-Terric Sapristels -----	0-19	Mucky peat, peat, muck	PT	A-8	---	---
	19-25	Silt loam, very fine sandy loam	ML	A-5, A-4	30-50	NP-10
	25-72	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
29VM01: 29-Volkmar -----	0-4	Moderately decomposed plant material, slightly decomposed plant material	PT	A-8	---	---
	4-8	Very fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	8-18	Very fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	18-30	Very fine sandy loam, silt loam	ML	A-4	25-35	NP-10
	30-72	Extremely gravelly coarse sand, extremely gravelly loamy sand, very gravelly sand	SM	A-1	0-0	NP
29WR01: 29-Water -----	---	---	---	---	---	---
29-Riverwash -----	---	---	---	---	---	---

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
31AN02: 31-Angel -----	0-2	Mucky peat, peat	PT	A-8	---	---
	2-4	Silt loam	ML	A-4	25-35	2-5
	4-8	Gravelly sandy loam, silt loam	SM, ML	A-2, A-4	5-35	NP-5
	8-19	Extremely cobbly sandy loam, very gravelly loamy coarse sand, very cobbly sandy loam	GW-GM, SM	A-1, A-2	0-15	NP-2
	19-72	Weathered bedrock			---	---
31-McCloud -----	0-3	Mucky peat, peat	PT	A-8	---	---
	3-20	Silt loam	ML	A-4	25-35	NP-10
	20-29	Loam, silt loam	ML	A-4	25-35	NP-10
	29-72	Weathered bedrock			---	---
31AN03: 31-Angel -----	0-2	Mucky peat, peat	PT	A-8	---	---
	2-4	Silt loam	ML	A-4	25-35	2-5
	4-8	Gravelly sandy loam, silt loam	SM, ML	A-2, A-4	5-35	NP-5
	8-19	Extremely cobbly sandy loam, very gravelly loamy coarse sand, very cobbly sandy loam	GW-GM, SM	A-1, A-2	0-15	NP-2
	19-72	Weathered bedrock			---	---
31-McCloud -----	0-3	Mucky peat, peat	PT	A-8	---	---
	3-20	Silt loam	ML	A-4	25-35	NP-10
	20-29	Loam, silt loam	ML	A-4	25-35	NP-10
	29-72	Weathered bedrock			---	---
31BR01: 31-Brigadier -----	0-6	Slightly decomposed plant material	PT	A-8	---	---
	6-11	Silt loam	ML	A-4	30-40	NP-10
	11-16	Silt loam	ML	A-4	25-35	NP-10
	16-20	Very gravelly loam, very channery sandy loam	GP-GM, GM	A-1, A-2	0-15	NP-5
	20-72	Weathered bedrock			---	---
31-Ester -----	0-9	Peat	PT	A-8	---	---
	9-12	Silt loam, mucky silt loam	ML	A-4	30-40	NP-5
	12-21	Permanently frozen very channery silt loam	GM	A-4, A-2	---	---
	21-72	Permanently frozen weathered bedrock			---	---
31BR02: 31-Brigadier -----	0-6	Slightly decomposed plant material	PT	A-8	---	---
	6-11	Silt loam	ML	A-4	30-40	NP-10
	11-16	Silt loam	ML	A-4	25-35	NP-10
	16-20	Very gravelly loam, very channery sandy loam	GP-GM, GM	A-1, A-2	0-15	NP-5
	20-72	Weathered bedrock			---	---
31-Ester -----	0-9	Peat	PT	A-8	---	---
	9-12	Silt loam, mucky silt loam	ML	A-4	30-40	NP-5
	12-21	Permanently frozen very channery silt loam	GM	A-4, A-2	---	---
	21-72	Permanently frozen weathered bedrock			---	---

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
31BR08: 31-Brigadier -----	0-6	Slightly decomposed plant material	PT	A-8	---	---
	6-11	Silt loam	ML	A-4	30-40	NP-10
	11-16	Silt loam	ML	A-4	25-35	NP-10
	16-20	Very gravelly loam, very channery sandy loam	GP-GM, GM	A-1, A-2	0-15	NP-5
	20-72	Weathered bedrock			---	---
31-Manchu -----	0-7	Slightly decomposed plant material	PT	A-8	---	---
	7-9	Mucky silt loam, silt loam	OL, ML	A-4	30-40	NP-10
	9-28	Silt, silt loam	ML	A-4	25-35	NP-10
	28-39	Extremely channery loam, very channery silt loam	GM	A-4, A-2	25-35	NP-10
	39-72	Weathered bedrock			---	---
31BR09: 31-Brigadier -----	0-6	Slightly decomposed plant material	PT	A-8	---	---
	6-11	Silt loam	ML	A-4	30-40	NP-10
	11-16	Silt loam	ML	A-4	25-35	NP-10
	16-20	Very gravelly loam, very channery sandy loam	GP-GM, GM	A-1, A-2	0-15	NP-5
	20-72	Weathered bedrock			---	---
31-Manchu -----	0-7	Slightly decomposed plant material	PT	A-8	---	---
	7-9	Mucky silt loam, silt loam	OL, ML	A-4	30-40	NP-10
	9-28	Silt, silt loam	ML	A-4	25-35	NP-10
	28-39	Extremely channery loam, very channery silt loam	GM	A-4, A-2	25-35	NP-10
	39-72	Weathered bedrock			---	---
31CH04: 31-Chatanika -----	0-4	Slightly decomposed plant material	PT	A-8	---	---
	4-6	Silt loam, mucky silt loam	MH, OH	A-5	70-100	NP-15
	6-21	Silt loam	ML	A-4	25-35	NP-5
	21-72	Permanently frozen silt loam	ML	A-4	---	---
31-Goldstream -----	0-9	Peat, mucky peat	PT	A-8	---	---
	9-12	Silt loam, mucky silt loam	ML	A-5, A-4	30-50	NP-10
	12-20	Silt loam	ML	A-4	25-35	NP-10
	20-72	Permanently frozen material			---	---
31ES01: 31-Ester -----	0-9	Peat	PT	A-8	---	---
	9-12	Silt loam, mucky silt loam	ML	A-4	30-40	NP-5
	12-21	Permanently frozen very channery silt loam	GM	A-4, A-2	---	---
	21-72	Permanently frozen weathered bedrock			---	---
31FA02: 31-Fairbanks -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-30	Silt loam	ML	A-4	30-40	NP-10
	30-72	Silt, silt loam	ML	A-4	25-35	NP-10
31FA03: 31-Fairbanks -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-30	Silt loam	ML	A-4	30-40	NP-10
	30-72	Silt, silt loam	ML	A-4	25-35	NP-10

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit  Pct.	Plasticity index
			Unified	AASHTO		
	In.					
31FA04:						
31-Fairbanks-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-30	Silt loam	ML	A-4	30-40	NP-10
	30-72	Silt, silt loam	ML	A-4	25-35	NP-10
31FA05:						
31-Fairbanks-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-30	Silt loam	ML	A-4	30-40	NP-10
	30-72	Silt, silt loam	ML	A-4	25-35	NP-10
31FA07:						
31-Fairbanks, gullied ----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-30	Silt loam	ML	A-4	30-40	NP-10
	30-72	Silt, silt loam	ML	A-4	25-35	NP-10
31-Fairbanks, gullied, steep-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-30	Silt loam	ML	A-4	30-40	NP-10
	30-72	Silt, silt loam	ML	A-4	25-35	NP-10
31FA11:						
31-Fairbanks-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-30	Silt loam	ML	A-4	30-40	NP-10
	30-72	Silt, silt loam	ML	A-4	25-35	NP-10
31-Steese-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-5	Silt loam	ML	A-4	25-35	NP-10
	5-27	Silt, silt loam	ML	A-4	25-35	NP-10
	27-33	Channery silt loam, extremely channery silt loam, very channery silt loam	GM	A-1, A-4, A-2	0-0	NP
	33-72	Weathered bedrock			---	---
31GD01:						
31-Goldstream -----	0-9	Peat, mucky peat	PT	A-8	---	---
	9-12	Silt loam, mucky silt loam	ML	A-5, A-4	30-50	NP-10
	12-20	Silt loam	ML	A-4	25-35	NP-10
	20-72	Permanently frozen material			---	---
31GD02:						
31-Goldstream -----	0-9	Peat, mucky peat	PT	A-8	---	---
	9-12	Silt loam, mucky silt loam	ML	A-5, A-4	30-50	NP-10
	12-20	Silt loam	ML	A-4	25-35	NP-10
	20-72	Permanently frozen material			---	---
31GD03:						
31-Goldstream -----	0-9	Peat, mucky peat	PT	A-8	---	---
	9-12	Silt loam, mucky silt loam	ML	A-5, A-4	30-50	NP-10
	12-20	Silt loam	ML	A-4	25-35	NP-10
	20-72	Permanently frozen material			---	---
31-Histels-----	0-19	Mucky peat, muck, peat	PT	A-8	---	---
	19-25	Silt loam, very fine sandy loam	ML	A-5, A-4	30-50	NP-10
	25-35	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
	35-72	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---



Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
31GL02: 31-Gilmore -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam	ML	A-4	30-40	NP-10
	6-12	Silt, silt loam	ML	A-4	25-35	NP-10
	12-19	Very channery silt loam, extremely channery silt loam	GM	A-2, A-4	---	NP
	19-72	Weathered bedrock			---	---
31GL03: 31-Gilmore -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam	ML	A-4	30-40	NP-10
	6-12	Silt, silt loam	ML	A-4	25-35	NP-10
	12-19	Very channery silt loam, extremely channery silt loam	GM	A-2, A-4	---	NP
	19-72	Weathered bedrock			---	---
31GL04: 31-Gilmore -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam	ML	A-4	30-40	NP-10
	6-12	Silt, silt loam	ML	A-4	25-35	NP-10
	12-19	Very channery silt loam, extremely channery silt loam	GM	A-2, A-4	---	NP
	19-72	Weathered bedrock			---	---
31GL05: 31-Gilmore -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam	ML	A-4	30-40	NP-10
	6-12	Silt, silt loam	ML	A-4	25-35	NP-10
	12-19	Very channery silt loam, extremely channery silt loam	GM	A-2, A-4	---	NP
	19-72	Weathered bedrock			---	---
31GL06: 31-Gilmore -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam	ML	A-4	30-40	NP-10
	6-12	Silt, silt loam	ML	A-4	25-35	NP-10
	12-19	Very channery silt loam, extremely channery silt loam	GM	A-2, A-4	---	NP
	19-72	Weathered bedrock			---	---
31HA01: 31-Happy -----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-5	Stratified silt loam to moderately decomposed plant material	OH, MH	A-5	70-100	NP-15
	5-20	Silt loam	ML	A-4	25-35	NP-10
	20-32	Stratified silt loam to moderately decomposed plant material	OH, MH	A-5	70-100	NP-15
	32-72	Permanently frozen material			---	---
31MC01: 31-McCloud -----	0-3	Mucky peat, peat	PT	A-8	---	---
	3-20	Silt loam	ML	A-4	25-35	NP-10
	20-29	Loam, silt loam	ML	A-4	25-35	NP-10
	29-72	Weathered bedrock			---	---

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit  Pct.	Plasticity index
			Unified	AASHTO		
	In.					
31MC02:						
31-McCloud -----	0-3	Mucky peat, peat	PT	A-8	---	---
	3-20	Silt loam	ML	A-4	25-35	NP-10
	20-29	Loam, silt loam	ML	A-4	25-35	NP-10
	29-72	Weathered bedrock			---	---
31MC03:						
31-McCloud -----	0-3	Mucky peat, peat	PT	A-8	---	---
	3-20	Silt loam	ML	A-4	25-35	NP-10
	20-29	Loam, silt loam	ML	A-4	25-35	NP-10
	29-72	Weathered bedrock			---	---
31-Fairbanks-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-30	Silt loam	ML	A-4	30-40	NP-10
	30-72	Silt, silt loam	ML	A-4	25-35	NP-10
31MN01:						
31-Minto-----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Silt loam	ML	A-4	25-40	NP-10
	9-16	Silt, silt loam	ML	A-4	15-25	NP-5
	16-72	Silt, silt loam	ML	A-4	15-25	NP-5
31MN02:						
31-Minto-----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Silt loam	ML	A-4	25-40	NP-10
	9-16	Silt, silt loam	ML	A-4	15-25	NP-5
	16-72	Silt, silt loam	ML	A-4	15-25	NP-5
31MN03:						
31-Minto-----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Silt loam	ML	A-4	25-40	NP-10
	9-16	Silt, silt loam	ML	A-4	15-25	NP-5
	16-72	Silt, silt loam	ML	A-4	15-25	NP-5
31MN04:						
31-Minto-----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Silt loam	ML	A-4	25-40	NP-10
	9-16	Silt, silt loam	ML	A-4	15-25	NP-5
	16-72	Silt, silt loam	ML	A-4	15-25	NP-5
31MN05:						
31-Minto-----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Silt loam	ML	A-4	25-40	NP-10
	9-16	Silt, silt loam	ML	A-4	15-25	NP-5
	16-72	Silt, silt loam	ML	A-4	15-25	NP-5
31-Chatanika -----	0-4	Slightly decomposed plant material	PT	A-8	---	---
	4-6	Silt loam, mucky silt loam	MH, OH	A-5	70-100	NP-15
	6-21	Silt loam	ML	A-4	25-35	NP-5
	21-72	Permanently frozen silt loam	ML	A-4	---	---

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
31MN06:						
31-Minto-----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Silt loam	ML	A-4	25-40	NP-10
	9-16	Silt, silt loam	ML	A-4	15-25	NP-5
	16-72	Silt, silt loam	ML	A-4	15-25	NP-5
31-Chatanika -----	0-4	Slightly decomposed plant material	PT	A-8	---	---
	4-6	Silt loam, mucky silt loam	MH, OH	A-5	70-100	NP-15
	6-21	Silt loam	ML	A-4	25-35	NP-5
	21-72	Permanently frozen silt loam	ML	A-4	---	---
31MN07:						
31-Minto-----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Silt loam	ML	A-4	25-40	NP-10
	9-16	Silt, silt loam	ML	A-4	15-25	NP-5
	16-72	Silt, silt loam	ML	A-4	15-25	NP-5
31-Chatanika -----	0-4	Slightly decomposed plant material	PT	A-8	---	---
	4-6	Silt loam, mucky silt loam	MH, OH	A-5	70-100	NP-15
	6-21	Silt loam	ML	A-4	25-35	NP-5
	21-72	Permanently frozen silt loam	ML	A-4	---	---
31RS01:						
31-Rosie -----	0-12	Silt loam	ML	A-4	0-42	NP-8
	12-22	Silt, channery silt loam	ML	A-4	0-35	NP-9
	22-28	Very channery silt loam, extremely channery silt loam, very channery very fine sandy loam	GM	A-2, A-4	0-23	NP-6
	28-72	Weathered bedrock			---	---
31SA06:						
31-Saulich -----	0-16	Mucky peat, peat	PT	A-8	---	---
	16-21	Silt loam, mucky silt loam	ML, OL	A-4	30-40	NP-10
	21-72	Permanently frozen silt loam	ML, OL	A-4	---	---
31-Minto-----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Silt loam	ML	A-4	25-40	NP-10
	9-16	Silt, silt loam	ML	A-4	15-25	NP-5
	16-72	Silt, silt loam	ML	A-4	15-25	NP-5
31SA08:						
31-Saulich -----	0-16	Mucky peat, peat	PT	A-8	---	---
	16-21	Silt loam, mucky silt loam	ML, OL	A-4	30-40	NP-10
	21-72	Permanently frozen silt loam	ML, OL	A-4	---	---
31-Chatanika -----	0-4	Slightly decomposed plant material	PT	A-8	---	---
	4-6	Silt loam, mucky silt loam	MH, OH	A-5	70-100	NP-15
	6-21	Silt loam	ML	A-4	25-35	NP-5
	21-72	Permanently frozen silt loam	ML	A-4	---	---
31-Minto-----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-9	Silt loam	ML	A-4	25-40	NP-10
	9-16	Silt, silt loam	ML	A-4	15-25	NP-5
	16-72	Silt, silt loam	ML	A-4	15-25	NP-5

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
31SR02: 31-Strelna -----	0-8	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	8-14	Silt loam, very fine sandy loam	ML	A-4	30-40	NP-5
	14-22	Silt loam, very fine sandy loam	ML	A-4	30-40	NP-5
	22-24	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
	24-72	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
31SR03: 31-Strelna -----	0-8	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	8-14	Silt loam, very fine sandy loam	ML	A-4	30-40	NP-5
	14-22	Silt loam, very fine sandy loam	ML	A-4	30-40	NP-5
	22-24	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
	24-72	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
31SR04: 31-Strelna -----	0-8	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	8-14	Silt loam, very fine sandy loam	ML	A-4	30-40	NP-5
	14-22	Silt loam, very fine sandy loam	ML	A-4	30-40	NP-5
	22-24	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
	24-72	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
31SR05: 31-Strelna -----	0-8	Slightly decomposed plant material, moderately decomposed plant material	PT	A-8	---	---
	8-14	Silt loam, very fine sandy loam	ML	A-4	30-40	NP-5
	14-22	Silt loam, very fine sandy loam	ML	A-4	30-40	NP-5
	22-24	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
	24-72	Permanently frozen silt loam, permanently frozen very fine sandy loam			---	---
31-Toghotthele -----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-4	Silt, silt loam	ML	A-4	30-40	NP-10
	4-51	Silt, silt loam	ML	A-4	30-40	NP-10
	51-72	Sand, fine sand	SP-SM	A-3	0-14	NP
31ST01: 31-Steese-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-5	Silt loam	ML	A-4	25-35	NP-10
	5-27	Silt, silt loam	ML	A-4	25-35	NP-10
	27-33	Channery silt loam, extremely channery silt loam, very channery silt loam	GM	A-1, A-4, A-2	0-0	NP
	33-72	Weathered bedrock			---	---

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
31ST02:						
31-Steese-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-5	Silt loam	ML	A-4	25-35	NP-10
	5-27	Silt, silt loam	ML	A-4	25-35	NP-10
	27-33	Channery silt loam, extremely channery silt loam, very channery silt loam	GM	A-1, A-4, A-2	0-0	NP
	33-72	Weathered bedrock			---	---
31ST03:						
31-Steese-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-5	Silt loam	ML	A-4	25-35	NP-10
	5-27	Silt, silt loam	ML	A-4	25-35	NP-10
	27-33	Channery silt loam, extremely channery silt loam, very channery silt loam	GM	A-1, A-4, A-2	0-0	NP
	33-72	Weathered bedrock			---	---
31ST04:						
31-Steese-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-5	Silt loam	ML	A-4	25-35	NP-10
	5-27	Silt, silt loam	ML	A-4	25-35	NP-10
	27-33	Channery silt loam, extremely channery silt loam, very channery silt loam	GM	A-1, A-4, A-2	0-0	NP
	33-72	Weathered bedrock			---	---
31ST05:						
31-Steese-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-5	Silt loam	ML	A-4	25-35	NP-10
	5-27	Silt, silt loam	ML	A-4	25-35	NP-10
	27-33	Channery silt loam, extremely channery silt loam, very channery silt loam	GM	A-1, A-4, A-2	0-0	NP
	33-72	Weathered bedrock			---	---
31ST06:						
31-Steese-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-5	Silt loam	ML	A-4	25-35	NP-10
	5-27	Silt, silt loam	ML	A-4	25-35	NP-10
	27-33	Channery silt loam, extremely channery silt loam, very channery silt loam	GM	A-1, A-4, A-2	0-0	NP
	33-72	Weathered bedrock			---	---
31ST08:						
31-Steese-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-5	Silt loam	ML	A-4	25-35	NP-10
	5-27	Silt, silt loam	ML	A-4	25-35	NP-10
	27-33	Channery silt loam, extremely channery silt loam, very channery silt loam	GM	A-1, A-4, A-2	0-0	NP
	33-72	Weathered bedrock			---	---
31-Gilmore -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam	ML	A-4	30-40	NP-10
	6-12	Silt, silt loam	ML	A-4	25-35	NP-10
	12-19	Very channery silt loam, extremely channery silt loam	GM	A-2, A-4	---	NP
	19-72	Weathered bedrock			---	---

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
31ST09:						
31-Steese-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-5	Silt loam	ML	A-4	25-35	NP-10
	5-27	Silt, silt loam	ML	A-4	25-35	NP-10
	27-33	Channery silt loam, extremely channery silt loam, very channery silt loam	GM	A-1, A-4, A-2	0-0	NP
	33-72	Weathered bedrock			---	---
31-Gilmore -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam	ML	A-4	30-40	NP-10
	6-12	Silt, silt loam	ML	A-4	25-35	NP-10
	12-19	Very channery silt loam, extremely channery silt loam	GM	A-2, A-4	---	NP
	19-72	Weathered bedrock			---	---
31ST10:						
31-Steese-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-5	Silt loam	ML	A-4	25-35	NP-10
	5-27	Silt, silt loam	ML	A-4	25-35	NP-10
	27-33	Channery silt loam, extremely channery silt loam, very channery silt loam	GM	A-1, A-4, A-2	0-0	NP
	33-72	Weathered bedrock			---	---
31-Gilmore -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam	ML	A-4	30-40	NP-10
	6-12	Silt, silt loam	ML	A-4	25-35	NP-10
	12-19	Very channery silt loam, extremely channery silt loam	GM	A-2, A-4	---	NP
	19-72	Weathered bedrock			---	---
31ST11:						
31-Steese-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-5	Silt loam	ML	A-4	25-35	NP-10
	5-27	Silt, silt loam	ML	A-4	25-35	NP-10
	27-33	Channery silt loam, extremely channery silt loam, very channery silt loam	GM	A-1, A-4, A-2	0-0	NP
	33-72	Weathered bedrock			---	---
31-Gilmore -----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam	ML	A-4	30-40	NP-10
	6-12	Silt, silt loam	ML	A-4	25-35	NP-10
	12-19	Very channery silt loam, extremely channery silt loam	GM	A-2, A-4	---	NP
	19-72	Weathered bedrock			---	---
31TG01:						
31-Toghotthele -----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-4	Silt, silt loam	ML	A-4	30-40	NP-10
	4-51	Silt, silt loam	ML	A-4	30-40	NP-10
	51-72	Sand, fine sand	SP-SM	A-3	0-14	NP

Table 4. Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
31TG02:						
31-Toghotthele -----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-4	Silt, silt loam	ML	A-4	30-40	NP-10
	4-51	Silt, silt loam	ML	A-4	30-40	NP-10
	51-72	Sand, fine sand	SP-SM	A-3	0-14	NP
31-Fairbanks-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-30	Silt loam	ML	A-4	30-40	NP-10
	30-72	Silt, silt loam	ML	A-4	25-35	NP-10
31TG03:						
31-Toghotthele -----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-4	Silt, silt loam	ML	A-4	30-40	NP-10
	4-51	Silt, silt loam	ML	A-4	30-40	NP-10
	51-72	Sand, fine sand	SP-SM	A-3	0-14	NP
31-Fairbanks-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-30	Silt loam	ML	A-4	30-40	NP-10
	30-72	Silt, silt loam	ML	A-4	25-35	NP-10
31TG04:						
31-Toghotthele -----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-4	Silt, silt loam	ML	A-4	30-40	NP-10
	4-51	Silt, silt loam	ML	A-4	30-40	NP-10
	51-72	Sand, fine sand	SP-SM	A-3	0-14	NP
31-Fairbanks-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-30	Silt loam	ML	A-4	30-40	NP-10
	30-72	Silt, silt loam	ML	A-4	25-35	NP-10
31TG05:						
31-Toghotthele -----	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-4	Silt, silt loam	ML	A-4	30-40	NP-10
	4-51	Silt, silt loam	ML	A-4	30-40	NP-10
	51-72	Sand, fine sand	SP-SM	A-3	0-14	NP
31-Fairbanks-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-30	Silt loam	ML	A-4	30-40	NP-10
	30-72	Silt, silt loam	ML	A-4	25-35	NP-10
R29WAA:						
29-Water -----	---	---	---	---	---	---
R31WAA:						
29-Water -----	---	---	---	---	---	---

Table 5. Engineering Particle Size Data

(Data are for soil components only. Miscellaneous area components not listed. Under Rock Fragments, Kind, 'gravel' = fine, medium, and coarse gravel, 'm&c gravel' = medium and coarse gravel, and 'f gravel' = fine gravel. Absence of an entry means that data do not apply.)

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments ≥2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
28BU01: 28-Butchlake-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-4	mucky silt loam	0:10: 10	cobbles	20:36: 50	45:58: 75	5: 6: 7
	Bw1/2Bw2	4-9	extremely gravelly coarse sandy loam, cobbly sandy loam	10:60: 80 5:20: 25	gravel cobbles	50:65: 70	25:30: 45	4: 5: 10
	2BC	9-72	very cobbly sandy loam	10:30: 80 5:20: 25	gravel cobbles	50:65: 80	15:30: 45	4: 5: 6
28-Southpaw-----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	Bw1	4-13	silt loam	0: 0: 0	---	20:33: 60	35:60: 75	5: 7: 10
	Bw2	13-22	fine sandy loam	0: 0: 0	---	20:67: 70	25:30: 75	0: 3: 5
	2BC	22-36	gravelly sandy loam	10:25: 30	gravel	20:67: 70	25:30: 75	0: 3: 5
	2C	36-72	very gravelly sandy loam	25:50: 70 0: 0: 15	gravel cobbles	65:75: 90	10:18: 30	0: 5: 5
28-Salchaket family -----	Oi	0-1	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	1-14	sand	0: 0: 0	---	86:95:100	0: 4: 15	0: 1: 5
	Oab	14-15	highly decomposed plant material	0: 0: 0	---	---	---	---
	C2	15-72	stratified gravelly sand to fine sandy loam	0:15: 20 0: 5: 10	gravel cobbles	45:65: 86	5:30: 51	0: 5: 10
28SP01: 28-Southpaw-----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	Bw1	4-13	silt loam	0: 0: 0	---	20:33: 60	35:60: 75	5: 7: 10
	Bw2	13-22	fine sandy loam	0: 0: 0	---	20:67: 70	25:30: 75	0: 3: 5
	2BC	22-36	gravelly sandy loam	10:25: 30	gravel	20:67: 70	25:30: 75	0: 3: 5
	2C	36-72	very gravelly sandy loam	25:50: 70 0: 0: 15	gravel cobbles	65:75: 90	10:18: 30	0: 5: 5
28-Butchlake-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-4	mucky silt loam	0:10: 10	cobbles	20:36: 50	45:58: 75	5: 6: 7
	Bw1/2Bw2	4-9	extremely gravelly coarse sandy loam, cobbly sandy loam	10:60: 80 5:20: 25	gravel cobbles	50:65: 70	25:30: 45	4: 5: 10
	2BC	9-72	very cobbly sandy loam	10:30: 80 5:20: 25	gravel cobbles	50:65: 80	15:30: 45	4: 5: 6
28SP02: 28-Southpaw-----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	Bw1	4-13	silt loam	0: 0: 0	---	20:33: 60	35:60: 75	5: 7: 10
	Bw2	13-22	fine sandy loam	0: 0: 0	---	20:67: 70	25:30: 75	0: 3: 5
	2BC	22-36	gravelly sandy loam	10:25: 30	gravel	20:67: 70	25:30: 75	0: 3: 5
	2C	36-72	very gravelly sandy loam	25:50: 70 0: 0: 15	gravel cobbles	65:75: 90	10:18: 30	0: 5: 5



Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
28SP02: 28-Butchlake-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-4	mucky silt loam	0:10: 10	cobbles	20:36: 50	45:58: 75	5: 6: 7
	Bw1/2Bw2	4-9	extremely gravelly coarse sandy loam, cobbly sandy loam	10:60: 80 5:20: 25	gravel cobbles	50:65: 70	25:30: 45	4: 5: 10
	2BC	9-72	very cobbly sandy loam	10:30: 80 5:20: 25	gravel cobbles	50:65: 80	15:30: 45	4: 5: 6
28TE01: 28-Terric Hemistels -----	Oe	0-20	mucky peat	0: 0: 0	---	---	---	---
	A/O	20-24	mucky silt loam	0: 0: 0	---	25:35: 45	53:60: 73	2: 5: 7
	Bjgjf	24-72	permanently frozen silt loam	0: 0: 30	gravel	25:35: 65	33:60: 73	2: 5: 7
28-Typic Aquiturbels-----	Oe	0-7	moderately decomposed plant material	0: 0: 0	---	---	---	---
	Bg	7-15	very fine sandy loam	0: 0: 0	---	50:60: 75	20:35: 47	3: 5: 7
	Bjgjf	15-33	permanently frozen very fine sandy loam	0: 0: 0	---	50:60: 75	20:35: 47	3: 5: 7
	Bgf1	33-41	permanently frozen very fine sandy loam	0: 0: 0	---	50:60: 75	20:35: 47	3: 5: 7
	2Bgf2	41-72	permanently frozen gravelly very fine sandy loam	15:15: 20	gravel	50:60: 75	20:35: 47	3: 5: 7
28-Water -----		---			---	---	---	---
29AE01: 29-Aquic Haplocrypts --	A	0-2	mucky silt loam	0: 0: 0	---	15:30: 45	50:63: 80	5: 7: 10
	Bw	2-18	stratified fine sand to silt loam	0: 3: 6 0: 5: 9	f gravel cobbles	45:65: 86	10:28: 50	4: 7: 10
	2C	18-72	very gravelly sand	0:15: 30 10:20: 35 0:10: 20	f gravel m&c gravel cobbles	86:95:100	0: 3: 15	0: 2: 5
29-Typic Cryaquepts ----	Bg	0-5	silt loam	0: 0: 0	---	15:30: 45	50:53: 80	5:17: 30
	Bw/Bg	5-60	silt loam	0: 0: 0	---	15:30: 75	15:53: 80	5:17: 30
29CH01: 29-Chena -----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	4-9	stratified fine sand to silt loam	0: 1: 2 0: 0: 8	f gravel m&c gravel	45:65: 90	10:30: 50	0: 5: 10
	2C2	9-72	very gravelly sand	8:15: 15 2:30: 40	f gravel m&c gravel	85:95:100	0: 4: 10	0: 1: 5
29EL01: 29-Eielson -----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	2-49	very fine sandy loam	0: 0: 0	---	50:65: 75	15:30: 45	3: 5: 10
	C2	49-71	stratified silt loam to fine sand	0: 2: 5	f gravel	45:65: 86	0:30: 50	0: 5: 10
	2C3	71-72	very gravelly sand	0:10: 20 10:20: 30 9:15: 20	f gravel m&c gravel cobbles	86:95:100	0: 4: 10	0: 1: 5

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
29EL01: 29-Piledriver, occasionally flooded ----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-15	very fine sandy loam	0: 0: 0	---	45:65: 86	10:30: 50	0: 5: 10
	C2	15-33	stratified sand to fine sand to very fine sandy loam	0: 0: 0	---	45:65: 86	10:30: 50	0: 5: 10
	2C3	33-72	very gravelly sand	2:15: 20 8:30: 35	f gravel m&c gravel	85:95:100	0: 4: 5	0: 1: 10
29EL02: 29-Eielson, rarely flooded-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	2-49	very fine sandy loam	0: 0: 0	---	50:65: 75	15:30: 45	3: 5: 10
	C2	49-71	stratified silt loam to fine sand	0: 2: 5	f gravel	45:65: 86	0:30: 50	0: 5: 10
	2C3	71-72	very gravelly sand	0:10: 20 10:20: 30 9:15: 20	f gravel m&c gravel cobbles	86:95:100	0: 4: 10	0: 1: 5
29-Tanana-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	mucky silt loam	0: 0: 0	---	10:30: 45	50:65: 80	3: 5: 10
	Bjg	6-25	very fine sandy loam	0: 0: 0	---	40:60: 80	10:35: 50	3: 5: 10
	Cjg	25-72	permanently frozen very fine sandy loam	0: 0: 0	---	40:60: 80	10:35: 50	3: 5: 10
29FU01: 29-Fubar, occasionally flooded-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	2-10	stratified fine sand to silt loam	0: 3: 4 0: 2: 10	f gravel m&c gravel	45:65: 86	10:30: 45	3: 5: 10
	2C2	10-72	very gravelly coarse sand	2:15: 25 8:30: 50	f gravel m&c gravel	85:95:100	0: 4: 15	0: 1: 5
29-Piledriver, occasionally flooded ----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-15	very fine sandy loam	0: 0: 0	---	45:65: 86	10:30: 50	0: 5: 10
	C2	15-33	stratified sand to fine sand to very fine sandy loam	0: 0: 0	---	45:65: 86	10:30: 50	0: 5: 10
	2C3	33-72	very gravelly sand	2:15: 20 8:30: 35	f gravel m&c gravel	85:95:100	0: 4: 5	0: 1: 10
29GE01: 29-Gerstle -----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	4-10	very fine sandy loam	0: 0: 0	---	25:51: 70	25:43: 70	3: 6: 8
	Bw	10-20	very fine sandy loam	0: 0: 0	---	52:61: 70	25:34: 52	2: 5: 7
	BC	20-30	stratified loamy fine sand to silt loam	0: 0: 0	---	45:67: 73	20:28: 40	2: 5: 7
	C	30-51	stratified sand to fine sandy loam	0: 1: 4	gravel	61:70: 76	20:26: 35	1: 4: 6
	2C	51-72	sand	0: 7: 12	gravel	80:87: 90	7:10: 18	1: 3: 5

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
29GE01: 29-Moosehead -----	Oi	0-5	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	5-7	silt loam	0: 0: 0	---	35:40: 60	35:55: 60	3: 5: 10
	Bw	7-20	very fine sandy loam	0: 0: 0	---	40:51: 65	25:44: 55	3: 5: 10
	BC	20-26	stratified fine sandy loam to very fine sandy loam	0: 0: 10	gravel	45:65: 75	20:32: 55	1: 3: 5
	2C	26-72	gravelly sand	15:29: 65 0: 2: 10	gravel cobbles	65:90:100	0: 9: 30	0: 1: 5
29GE02: 29-Gerstle -----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	4-10	very fine sandy loam	0: 0: 0	---	25:51: 70	25:43: 70	3: 6: 8
	Bw	10-20	very fine sandy loam	0: 0: 0	---	52:61: 70	25:34: 52	2: 5: 7
	BC	20-30	stratified loamy fine sand to silt loam	0: 0: 0	---	45:67: 73	20:28: 40	2: 5: 7
	C	30-51	stratified sand to fine sandy loam	0: 1: 4	gravel	61:70: 76	20:26: 35	1: 4: 6
	2C	51-72	sand	0: 7: 12	gravel	80:87: 90	7:10: 18	1: 3: 5
29-Tanana-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	mucky silt loam	0: 0: 0	---	10:30: 45	50:65: 80	3: 5: 10
	Bjg	6-25	very fine sandy loam	0: 0: 0	---	40:60: 80	10:35: 50	3: 5: 10
	Cjg	25-72	permanently frozen very fine sandy loam	0: 0: 0	---	40:60: 80	10:35: 50	3: 5: 10
29GE04: 29-Gerstle family -----	Oe, Oa	0-3	moderately decomposed plant material	0: 0: 0	---	---	---	---
	A	3-7	silt loam	0: 0: 0	---	30:37: 52	44:58: 61	2: 5: 8
	Bw, BC	7-20	very fine sandy loam	0: 0: 0	---	44:62: 69	28:34: 53	2: 4: 6
	C	20-57	silt loam	0: 6: 10	gravel	27:34: 92	4:59: 70	1: 7: 8
	2C	57-72	very gravelly coarse sand	30:35: 60	gravel	90:92: 96	3: 6: 8	0: 1: 2
29-Tanacross family -----	Oi	0-7	peat	0: 0: 0	---	---	---	---
	Oe	7-13	mucky peat	0: 0: 0	---	---	---	---
	Bjg, Bw	13-19	very fine sandy loam	0: 7: 30 0: 2: 10	gravel cobbles	45:66: 73	23:27: 51	4: 7: 9
	C, Cjg	19-24	silt loam	0: 0: 0	---	27:34: 53	44:58: 64	3: 8: 10
	Cf, Cjg	24-52	permanently frozen very fine sandy loam	0: 2: 10	gravel	43:65: 73	22:27: 52	3: 8: 9
	Cf2	52-72	permanently frozen material		---	---	---	---
29JV01: 29-Jarvis -----	Oe	0-3	moderately decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-6	very fine sandy loam	0: 0: 0	---	45:65: 86	10:30: 55	3: 5: 10
	C2	6-24	stratified sand to fine sand to very fine sandy loam	0: 0: 0	---	60:75: 86	10:20: 30	3: 5: 10
	2C3	24-72	very gravelly sand	10:15: 20 25:30: 35	f gravel m&c gravel	85:95:100	0: 4: 10	0: 1: 5

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
29JV02: 29-Jarvis, occasionally flooded-----	Oe	0-3	moderately decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-6	very fine sandy loam	0: 0: 0	---	45:65: 86	10:30: 55	3: 5: 10
	C2	6-24	stratified sand to fine sand to very fine sandy loam	0: 0: 0	---	60:75: 86	10:20: 30	3: 5: 10
	2C3	24-72	very gravelly sand	10:15: 20 25:30: 35	f gravel m&c gravel	85:95:100	0: 4: 10	0: 1: 5
29JV04: 29-Jarvis -----	Oe	0-3	moderately decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-6	very fine sandy loam	0: 0: 0	---	45:65: 86	10:30: 55	3: 5: 10
	C2	6-24	stratified sand to fine sand to very fine sandy loam	0: 0: 0	---	60:75: 86	10:20: 30	3: 5: 10
	2C3	24-72	very gravelly sand	10:15: 20 25:30: 35	f gravel m&c gravel	85:95:100	0: 4: 10	0: 1: 5
29-Salchaket-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-24	very fine sandy loam	0: 0: 0	---	45:66: 80	10:26: 50	5: 8: 10
	C2	24-45	stratified silt loam to fine sand	0: 2: 3	f gravel	45:60: 80	10:32: 50	5: 8: 10
	2C3	45-72	very gravelly sand	12:15: 20 23:30: 35	f gravel m&c gravel	85:96:100	0: 2: 15	0: 2: 5
29JV05: 29-Jarvis, occasionally flooded-----	Oe	0-3	moderately decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-6	very fine sandy loam	0: 0: 0	---	45:65: 86	10:30: 55	3: 5: 10
	C2	6-24	stratified sand to fine sand to very fine sandy loam	0: 0: 0	---	60:75: 86	10:20: 30	3: 5: 10
	2C3	24-72	very gravelly sand	10:15: 20 25:30: 35	f gravel m&c gravel	85:95:100	0: 4: 10	0: 1: 5
29-Salchaket, occasionally flooded ----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-24	very fine sandy loam	0: 0: 0	---	45:66: 80	10:26: 50	5: 8: 10
	C2	24-45	stratified silt loam to fine sand	0: 2: 3	f gravel	45:60: 80	10:32: 50	5: 8: 10
	2C3	45-72	very gravelly sand	12:15: 20 23:30: 35	f gravel m&c gravel	85:96:100	0: 2: 15	0: 2: 5
29KU01: 29-Koyukuk -----	Oi, Oe	0-6	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	6-34	silt loam	0: 0: 0	---	24:29: 39	55:62: 70	5: 9: 12
	2C	34-72	gravelly silt loam	15:23: 30	gravel	28:36: 51	43:53: 61	5:11: 13
29-Audrey family-----	Oi	0-8	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	8-13	very fine sandy loam	0: 0: 0	---	43:57: 67	30:38: 51	2: 5: 7
	Bjj, Bg, BC	13-26	very fine sandy loam	0: 2: 5	gravel	40:53: 66	31:41: 51	2: 6: 9
	2BC, 2C	26-72	gravelly very fine sandy loam	10:22: 45	gravel	40:59: 82	14:35: 38	3: 6: 8

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
29KZ01: 29-lksgiza-----	Oi	0-5	peat	0: 0: 0	---	---	---	---
	Oa	5-8	muck	0: 0: 0	---	---	---	---
	A	8-12	very fine sandy loam	0: 0: 0	---	47:61: 67	27:34: 45	2: 5: 7
	Bjj, Bw	12-21	very fine sandy loam	0: 0: 0	---	45:61: 67	27:34: 45	2: 5: 7
	Cf, Cjff	21-24	permanently frozen very fine sandy loam	0: 0: 0	---	45:61: 70	27:34: 45	2: 5: 7
	2Cf1	24-72	permanently frozen sand	0: 0: 0	---	90:98: 99	1: 2: 8	0: 1: 3
29-Histels-----	Oi	0-18	peat	0: 0: 0	---	---	---	---
	Bjj	18-25	very fine sandy loam	0: 0: 0	---	44:54: 65	32:41: 50	2: 5: 8
	Bjff	25-35	permanently frozen very fine sandy loam	0: 0: 0	---	44:54: 65	32:41: 50	2: 5: 8
	Cf	35-72	permanently frozen very fine sandy loam	0: 0: 0	---	44:54: 65	32:41: 50	2: 5: 8
29KZ02: 29-lksgiza-----	Oi	0-5	peat	0: 0: 0	---	---	---	---
	Oa	5-8	muck	0: 0: 0	---	---	---	---
	A	8-12	very fine sandy loam	0: 0: 0	---	47:61: 67	27:34: 45	2: 5: 7
	Bjj, Bw	12-21	very fine sandy loam	0: 0: 0	---	45:61: 67	27:34: 45	2: 5: 7
	Cf, Cjff	21-24	permanently frozen very fine sandy loam	0: 0: 0	---	45:61: 70	27:34: 45	2: 5: 7
	2Cf1	24-72	permanently frozen sand	0: 0: 0	---	90:98: 99	1: 2: 8	0: 1: 3
29-Lupine family-----	Oi	0-1	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	1-7	very fine sandy loam	0: 0: 0	---	40:56: 65	32:39: 45	3: 5: 7
	Bw	7-18	very fine sandy loam	0: 0: 0	---	50:65: 70	23:30: 35	3: 5: 7
	BC	18-25	fine sandy loam	0: 0: 0	---	60:74: 85	17:22: 28	2: 4: 7
	2C	25-72	sand	0: 0: 0	---	80:92: 95	3: 6: 9	1: 2: 3
29LS03: 29-Liscum-----	Oi	0-3	peat	0: 0: 0	---	---	---	---
	Oa	3-11	muck	0: 0: 0	---	---	---	---
	A	11-15	mucky silt loam	0: 0: 0	---	10:25: 45	50:70: 80	0: 5: 10
	Bg	15-70	stratified silt loam to loamy fine sand	0: 0: 0	---	40:60: 80	10:35: 50	0: 5: 10
	C	70-72	very gravelly sandy loam	15:15: 20 20:30: 40	f gravel m&c gravel	45:65: 75	20:33: 50	0: 2: 5
29-Terric Cryohemists---	Oi	0-3	peat	0: 0: 0	---	---	---	---
	Oe	3-12	mucky peat	0: 0: 15 0: 0: 5	gravel cobbles	---	---	---
	Oa	12-22	gravelly muck	0:20: 50 0:13: 15	gravel cobbles	---	---	---
	Bg, Cg	22-72	extremely gravelly silt loam	0:60: 60 0: 2: 5	gravel cobbles	5:40: 86	10:55: 80	1: 5: 35
29LU01: 29-Lupine-----	Oe	0-3	moderately decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 0	---	42:42: 70	25:52: 67	1: 6: 8
	Bw	6-16	very fine sandy loam	0: 0: 0	---	50:56: 70	27:39: 47	1: 5: 10
	BC	16-20	very fine sandy loam	0: 0: 0	---	53:63: 70	25:31: 39	1: 6: 8
	2C	20-72	very gravelly sand	35:50: 64 0: 5: 11	gravel cobbles	80:90: 94	2: 6: 12	1: 4: 8

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
29LU02: 29-Lupine family -----	Oi	0-1	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	1-7	very fine sandy loam	0: 0: 0	---	40:56: 65	32:39: 45	3: 5: 7
	Bw	7-18	very fine sandy loam	0: 0: 0	---	50:65: 70	23:30: 35	3: 5: 7
	BC	18-25	fine sandy loam	0: 0: 0	---	60:74: 85	17:22: 28	2: 4: 7
	2C	25-72	sand	0: 0: 0	---	80:92: 95	3: 6: 9	1: 2: 3
29-Beales-----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	4-8	very fine sandy loam	0: 0: 0	---	53:65: 75	15:30: 45	3: 5: 10
	Bw	8-12	very fine sandy loam	0: 0: 0	---	51:65: 73	10:30: 45	1: 5: 10
	2Bw	12-20	loamy sand	0: 0: 0	---	65:81: 92	0:15: 30	0: 4: 10
	2C	20-72	sand	0: 0: 0	---	83:92: 96	0: 6: 15	0: 2: 3
29LU03: 29-Lupine family -----	Oi	0-1	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	1-7	very fine sandy loam	0: 0: 0	---	40:56: 65	32:39: 45	3: 5: 7
	Bw	7-18	very fine sandy loam	0: 0: 0	---	50:65: 70	23:30: 35	3: 5: 7
	BC	18-25	fine sandy loam	0: 0: 0	---	60:74: 85	17:22: 28	2: 4: 7
	2C	25-72	sand	0: 0: 0	---	80:92: 95	3: 6: 9	1: 2: 3
29-Beales-----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	4-8	very fine sandy loam	0: 0: 0	---	53:65: 75	15:30: 45	3: 5: 10
	Bw	8-12	very fine sandy loam	0: 0: 0	---	51:65: 73	10:30: 45	1: 5: 10
	2Bw	12-20	loamy sand	0: 0: 0	---	65:81: 92	0:15: 30	0: 4: 10
	2C	20-72	sand	0: 0: 0	---	83:92: 96	0: 6: 15	0: 2: 3
29LU04: 29-Lupine family -----	Oi	0-1	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	1-7	very fine sandy loam	0: 0: 0	---	40:56: 65	32:39: 45	3: 5: 7
	Bw	7-18	very fine sandy loam	0: 0: 0	---	50:65: 70	23:30: 35	3: 5: 7
	BC	18-25	fine sandy loam	0: 0: 0	---	60:74: 85	17:22: 28	2: 4: 7
	2C	25-72	sand	0: 0: 0	---	80:92: 95	3: 6: 9	1: 2: 3
29-Bohica-----	Oe	0-4	moderately decomposed plant material	0: 0: 0	---	---	---	---
	A	4-11	very fine sandy loam	0: 0: 0	---	45:61: 70	27:34: 51	3: 5: 10
	Bw	11-27	very fine sandy loam	0: 0: 0	---	44:61: 69	28:34: 52	3: 5: 10
	BC	27-42	very fine sandy loam	0: 0: 0	---	49:61: 70	26:34: 45	3: 5: 10
	2C	42-72	sand	0: 0: 0	---	80:95: 98	1: 2: 10	1: 3: 10
29-Iksgiza-----	Oi	0-5	peat	0: 0: 0	---	---	---	---
	Oa	5-8	muck	0: 0: 0	---	---	---	---
	A	8-12	very fine sandy loam	0: 0: 0	---	47:61: 67	27:34: 45	2: 5: 7
	Bjj, Bw	12-21	very fine sandy loam	0: 0: 0	---	45:61: 67	27:34: 45	2: 5: 7
	Cf, Cjif	21-24	permanently frozen very fine sandy loam	0: 0: 0	---	45:61: 70	27:34: 45	2: 5: 7
	2Cf1	24-72	permanently frozen sand	0: 0: 0	---	90:98: 99	1: 2: 8	0: 1: 3

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
29LU05: 29-Lupine -----	Oe	0-3	moderately decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 0	---	42:42: 70	25:52: 67	1: 6: 8
	Bw	6-16	very fine sandy loam	0: 0: 0	---	50:56: 70	27:39: 47	1: 5: 10
	BC	16-20	very fine sandy loam	0: 0: 0	---	53:63: 70	25:31: 39	1: 6: 8
	2C	20-72	very gravelly sand	35:50: 64 0: 5: 11	gravel cobbles	80:90: 94	2: 6: 12	1: 4: 8
29-Jarvis -----	Oe	0-3	moderately decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-6	very fine sandy loam	0: 0: 0	---	45:65: 86	10:30: 55	3: 5: 10
	C2	6-24	stratified sand to fine sand to very fine sandy loam	0: 0: 0	---	60:75: 86	10:20: 30	3: 5: 10
	2C3	24-72	very gravelly sand	10:15: 20 25:30: 35	f gravel m&c gravel	85:95:100	0: 4: 10	0: 1: 5
29MH01: 29-Moosehead family ---	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	E	3-6	very fine sandy loam	0: 0: 0	---	20:65: 75	15:30: 70	0: 5: 10
	Oi	6-7	slightly decomposed plant material	0: 0: 0	---	---	---	---
	E'	7-14	very fine sandy loam	0: 0: 0	---	20:65: 75	15:30: 70	0: 5: 10
	B	14-26	fine sandy loam	0: 0: 0	---	20:65: 75	15:30: 70	0: 5: 10
	2C	26-72	extremely gravelly coarse sand	20:60: 75 0: 0: 10	gravel cobbles	75:90: 95	0: 8: 20	0: 2: 5
29-Nenana -----	Oe	0-3	moderately decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 2	gravel	25:38: 50	45:57: 70	3: 5: 10
	Bw	6-13	very fine sandy loam	0: 0: 2	gravel	25:50: 60	35:45: 70	3: 5: 10
	BC	13-20	gravelly very fine sandy loam	0:18: 25	gravel	42:61: 80	18:34: 60	2: 5: 10
	2C	20-72	very gravelly loamy sand	35:55: 70 0: 0: 10	gravel cobbles	80:85: 95	5:12: 20	0: 3: 5
29NE01: 29-Nenana -----	Oe	0-3	moderately decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 2	gravel	25:38: 50	45:57: 70	3: 5: 10
	Bw	6-13	very fine sandy loam	0: 0: 2	gravel	25:50: 60	35:45: 70	3: 5: 10
	BC	13-20	gravelly very fine sandy loam	0:18: 25	gravel	42:61: 80	18:34: 60	2: 5: 10
	2C	20-72	very gravelly loamy sand	35:55: 70 0: 0: 10	gravel cobbles	80:85: 95	5:12: 20	0: 3: 5
29NE03: 29-Nenana -----	Oe	0-3	moderately decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 2	gravel	25:38: 50	45:57: 70	3: 5: 10
	Bw	6-13	very fine sandy loam	0: 0: 2	gravel	25:50: 60	35:45: 70	3: 5: 10
	BC	13-20	gravelly very fine sandy loam	0:18: 25	gravel	42:61: 80	18:34: 60	2: 5: 10
	2C	20-72	very gravelly loamy sand	35:55: 70 0: 0: 10	gravel cobbles	80:85: 95	5:12: 20	0: 3: 5

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
29NE03: 29-Donnelly -----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	Bw	2-6	gravelly silt loam	2:14: 25 0: 3: 6 0: 2: 3	gravel cobbles stones	25:38: 45	55:60: 75	0: 2: 5
	BC	6-12	gravelly silt loam	11:18: 24 3: 6: 9 0: 2: 3	gravel cobbles stones	25:38: 65	35:60: 75	0: 2: 5
	2C	12-72	very gravelly sand	24:39: 54 3: 6: 9	gravel cobbles	90:96:100	0: 2: 5	0: 2: 5
29PL01: 29-Eielson, rarely flooded-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	2-49	very fine sandy loam	0: 0: 0	---	50:65: 75	15:30: 45	3: 5: 10
	C2	49-71	stratified silt loam to fine sand	0: 2: 5	f gravel	45:65: 86	0:30: 50	0: 5: 10
	2C3	71-72	very gravelly sand	0:10: 20 10:20: 30 9:15: 20	f gravel m&c gravel cobbles	86:95:100	0: 4: 10	0: 1: 5
29-Piledriver -----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-15	very fine sandy loam	0: 0: 0	---	45:65: 86	10:30: 50	0: 5: 10
	C2	15-33	stratified sand to fine sand to very fine sandy loam	0: 0: 0	---	45:65: 86	10:30: 50	0: 5: 10
	2C3	33-72	very gravelly sand	2:15: 20 8:30: 35	f gravel m&c gravel	85:95:100	0: 4: 5	0: 1: 10
29PT01: 29-Pits, gravel -----		---			---	---	---	---
29PT02: 29-Pits, quarry-----		---			---	---	---	---
29RC01: 29-Richardson-----	Oi	0-1	slightly decomposed plant material	0: 0: 0	---	---	---	---
	Bw	1-20	silt loam	0: 0: 0	---	25:35: 65	30:57: 70	5: 8: 10
	BC	20-59	silt loam	0: 0: 15	gravel	25:35: 65	30:57: 70	5: 8: 10
	2C	59-72	loamy sand	0: 1: 15 0: 4: 50 0: 0: 10	f gravel m&c gravel cobbles	75:83:100	0:15: 20	0: 2: 5
29-Salchaket, occasionally flooded ----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-24	very fine sandy loam	0: 0: 0	---	45:66: 80	10:26: 50	5: 8: 10
	C2	24-45	stratified silt loam to fine sand	0: 2: 3	f gravel	45:60: 80	10:32: 50	5: 8: 10
	2C3	45-72	very gravelly sand	12:15: 20 23:30: 35	f gravel m&c gravel	85:96:100	0: 2: 15	0: 2: 5



Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth in	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
				Pct.		Pct.	Pct.	Pct.
29SA01: 29-Sawmill Creek-----	Oe	0-4	moderately decomposed plant material	0: 0: 0	---	---	---	---
	A	4-5	silt loam	0: 0: 0	---	30:42: 60	35:53: 60	2: 5: 10
	Bw	5-12	silt loam	0: 0: 1	gravel	30:42: 60	35:53: 60	2: 5: 10
	2BC	12-14	fine sandy loam	0: 0: 10	gravel	55:65: 70	25:30: 35	2: 5: 10
	3Ck	14-72	extremely gravelly loamy coarse sand	30:61: 70 0: 1: 10	gravel cobbles	70:82: 90	10:15: 25	0: 3: 5
29SC01: 29-Salchaket family -----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	BC	4-8	very fine sandy loam	0: 0: 0	---	46:60: 68	28:35: 51	2: 5: 7
	2C	8-72	stratified coarse sand to silt loam	0: 0: 0	---	46:75: 95	4:21: 51	1: 4: 5
29-Hogan family -----	Oi	0-6	slightly decomposed plant material	0: 0: 0	---	---	---	---
	Oa, Oe	6-8	highly decomposed plant material	0: 0: 0	---	---	---	---
	Bw	8-24	very fine sandy loam	0: 0: 0	---	30:56: 75	23:35: 51	3: 9: 11
	2BC, 2C	24-47	fine sandy loam	0: 0: 0	---	45:67: 92	7:29: 47	1: 4: 8
	2Cf	47-72	permanently frozen material		---	---	---	---
29SC02: 29-Salchaket-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-24	very fine sandy loam	0: 0: 0	---	45:66: 80	10:26: 50	5: 8: 10
	C2	24-45	stratified silt loam to fine sand	0: 2: 3	f gravel	45:60: 80	10:32: 50	5: 8: 10
	2C3	45-72	very gravelly sand	12:15: 20 23:30: 35	f gravel m&c gravel	85:96:100	0: 2: 15	0: 2: 5
29SC03: 29-Salchaket, occasionally flooded ----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	C1	3-24	very fine sandy loam	0: 0: 0	---	45:66: 80	10:26: 50	5: 8: 10
	C2	24-45	stratified silt loam to fine sand	0: 2: 3	f gravel	45:60: 80	10:32: 50	5: 8: 10
	2C3	45-72	very gravelly sand	12:15: 20 23:30: 35	f gravel m&c gravel	85:96:100	0: 2: 15	0: 2: 5
29TC01: 29-Tanacross-----	Oi	0-9	peat	0: 0: 0	---	---	---	---
	A	9-11	mucky silt loam	0: 0: 0	---	10:37: 50	50:58: 80	0: 5: 10
	Bjfg	11-17	stratified fine sandy loam to silt loam	0: 0: 0	---	45:60: 80	10:35: 50	0: 5: 10
	Bjif	17-48	permanently frozen very fine sandy loam	0: 0: 0	---	51:61: 68	27:34: 46	3: 5: 7
	Cf	48-72	permanently frozen material		---	---	---	---

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
29TC02: 29-Tanacross family -----	Oi	0-7	peat	0: 0: 0	---	---	---	---
	Oe	7-13	mucky peat	0: 0: 0	---	---	---	---
	Bjj, Bw	13-19	very fine sandy loam	0: 7: 30	gravel	45:66: 73	23:27: 51	4: 7: 9
				0: 2: 10	cobbles			
	C, Cjj	19-24	silt loam	0: 0: 0	---	27:34: 53	44:58: 64	3: 8: 10
	Cf, Cjif	24-52	permanently frozen very fine sandy loam	0: 2: 10	gravel	43:65: 73	22:27: 52	3: 8: 9
	Cf2	52-72	permanently frozen material		---	---	---	---
29-Moosehead -----	Oi	0-5	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	5-7	silt loam	0: 0: 0	---	35:40: 60	35:55: 60	3: 5: 10
	Bw	7-20	very fine sandy loam	0: 0: 0	---	40:51: 65	25:44: 55	3: 5: 10
	BC	20-26	stratified fine sandy loam to very fine sandy loam	0: 0: 10	gravel	45:65: 75	20:32: 55	1: 3: 5
	2C	26-72	gravelly sand	15:29: 65	gravel	65:90:100	0: 9: 30	0: 1: 5
				0: 2: 10	cobbles			
29TC03: 29-Tanacross, occasionally flooded ----	Oi	0-9	peat	0: 0: 0	---	---	---	---
	A	9-11	mucky silt loam	0: 0: 0	---	10:37: 50	50:58: 80	0: 5: 10
	Bjjg	11-17	stratified fine sandy loam to silt loam	0: 0: 0	---	45:60: 80	10:35: 50	0: 5: 10
	Bjif	17-48	permanently frozen very fine sandy loam	0: 0: 0	---	51:61: 68	27:34: 46	3: 5: 7
	Cf	48-72	permanently frozen material		---	---	---	---
29-Histels -----	Oi	0-18	peat	0: 0: 0	---	---	---	---
	Bjj	18-25	very fine sandy loam	0: 0: 0	---	44:54: 65	32:41: 50	2: 5: 8
	Bjif	25-35	permanently frozen very fine sandy loam	0: 0: 0	---	44:54: 65	32:41: 50	2: 5: 8
	Cf	35-72	permanently frozen very fine sandy loam	0: 0: 0	---	44:54: 65	32:41: 50	2: 5: 8
29TN01: 29-Tanana -----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	mucky silt loam	0: 0: 0	---	10:30: 45	50:65: 80	3: 5: 10
	Bjjg	6-25	very fine sandy loam	0: 0: 0	---	40:60: 80	10:35: 50	3: 5: 10
	Cjjgf	25-72	permanently frozen very fine sandy loam	0: 0: 0	---	40:60: 80	10:35: 50	3: 5: 10
29TS01: 29-Terric Sapristels -----	Oa	0-19	muck	0: 0: 0	---	---	---	---
	A	19-25	very fine sandy loam	0: 0: 0	---	44:54: 65	32:41: 50	2: 5: 8
	Af	25-72	permanently frozen very fine sandy loam	0: 0: 0	---	44:54: 65	32:41: 50	2: 5: 8
29VM01: 29-Volkmar -----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	4-8	silt loam	0: 0: 0	---	25:43: 70	25:52: 70	2: 5: 8
	Bw	8-18	silt loam	0: 0: 0	---	25:44: 70	25:51: 70	2: 5: 8
	BC, C	18-30	silt loam	0: 0: 0	---	25:45: 70	25:50: 70	1: 5: 7
	2C	30-72	very gravelly sand	35:45: 60	gravel	86:90: 91	4: 7: 9	0: 3: 5
				0: 5: 10	cobbles			

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments ≥2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
29WR01: 29-Water -----		---			---	---	---	---
29-Riverwash -----		---			---	---	---	---
31AN02: 31-Angel -----	Oi	0-2	peat	0: 0: 0	---	---	---	---
	AE	2-4	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	4-8	silt loam	0: 0: 10	f gravel	10:17: 65	30:75: 80	3: 8: 14
				0: 0: 20	m&c gravel			
	2BCr	8-19	very cobbly sandy loam	0: 3: 10	f gravel	55:65: 80	5:30: 45	0: 5: 10
				12:17: 25	m&c gravel			
				17:20: 50	cobbles			
	2Cr	19-72	weathered bedrock		---	---	---	---
31-McCloud -----	Oi	0-3	peat	0: 0: 0	---	---	---	---
	Bw	3-20	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	20-29	silt loam	0: 0: 0	---	10:20: 50	35:72: 80	3: 8: 15
	2Cr	29-72	weathered bedrock		---	---	---	---
31AN03: 31-Angel -----	Oi	0-2	peat	0: 0: 0	---	---	---	---
	AE	2-4	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	4-8	silt loam	0: 0: 10	f gravel	10:17: 65	30:75: 80	3: 8: 14
				0: 0: 20	m&c gravel			
	2BCr	8-19	very cobbly sandy loam	0: 3: 10	f gravel	55:65: 80	5:30: 45	0: 5: 10
				12:17: 25	m&c gravel			
				17:20: 50	cobbles			
	2Cr	19-72	weathered bedrock		---	---	---	---
31-McCloud -----	Oi	0-3	peat	0: 0: 0	---	---	---	---
	Bw	3-20	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	20-29	silt loam	0: 0: 0	---	10:20: 50	35:72: 80	3: 8: 15
	2Cr	29-72	weathered bedrock		---	---	---	---
31BR01: 31-Brigadier -----	Oi	0-6	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	6-11	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	11-16	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	2BC	16-20	very channery sandy loam	35:50: 55	channers gravel	50:65: 75	15:30: 45	1: 5: 14
				5: 5: 50				
	2Cr	20-72	weathered bedrock		---	---	---	---
31-Ester -----	Oi	0-9	peat	0: 0: 0	---	---	---	---
	ABjj	9-12	mucky silt loam	0: 0: 0	---	11:34: 45	50:59: 80	5: 8: 10
	2Cjif	12-21	permanently frozen very channery silt loam	35:45: 55	channers	15:38: 50	50:60: 80	0: 2: 5
	2Crf	21-72	permanently frozen weathered bedrock		---	---	---	---
31BR02: 31-Brigadier -----	Oi	0-6	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	6-11	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	11-16	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	2BC	16-20	very channery sandy loam	35:50: 55	channers gravel	50:65: 75	15:30: 45	1: 5: 14
				5: 5: 50				
	2Cr	20-72	weathered bedrock		---	---	---	---

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments ≥2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
31BR02: 31-Ester -----	Oi	0-9	peat	0: 0: 0	---	---	---	---
	ABjj	9-12	mucky silt loam	0: 0: 0	---	11:34: 45	50:59: 80	5: 8: 10
	2Cjif	12-21	permanently frozen very channery silt loam	35:45: 55	channers	15:38: 50	50:60: 80	0: 2: 5
	2Crf	21-72	permanently frozen weathered bedrock		---	---	---	---
31BR08: 31-Brigadier -----	Oi	0-6	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	6-11	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	11-16	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	2BC	16-20	very channery sandy loam	35:50: 55 5: 5: 50	channers gravel	50:65: 75	15:30: 45	1: 5: 14
	2Cr	20-72	weathered bedrock		---	---	---	---
31-Manchu -----	Oi	0-7	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	7-9	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	Bw	9-28	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 15
	2BC	28-39	very channery silt loam	0: 3: 6 12:15: 18 17:20: 23	channers channers channers	15:34: 50	35:58: 80	3: 8: 15
	2Cr	39-72	weathered bedrock		---	---	---	---
31BR09: 31-Brigadier -----	Oi	0-6	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	6-11	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	11-16	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	2BC	16-20	very channery sandy loam	35:50: 55 5: 5: 50	channers gravel	50:65: 75	15:30: 45	1: 5: 14
	2Cr	20-72	weathered bedrock		---	---	---	---
31-Manchu -----	Oi	0-7	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	7-9	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	Bw	9-28	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 15
	2BC	28-39	very channery silt loam	0: 3: 6 12:15: 18 17:20: 23	channers channers channers	15:34: 50	35:58: 80	3: 8: 15
	2Cr	39-72	weathered bedrock		---	---	---	---
31CH04: 31-Chatanika -----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	4-6	mucky silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C/Ag	6-21	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Cgf	21-72	permanently frozen silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
31-Goldstream -----	Oe	0-9	mucky peat	0: 0: 0	---	---	---	---
	A	9-12	mucky silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bjig	12-20	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Cgf	20-72	permanently frozen material		---	---	---	---

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments ≥2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
31ES01: 31-Ester-----	Oi	0-9	peat	0: 0: 0	---	---	---	---
	ABjj	9-12	mucky silt loam	0: 0: 0	---	11:34: 45	50:59: 80	5: 8: 10
	2Cjif	12-21	permanently frozen very channery silt loam	35:45: 55	channers	15:38: 50	50:60: 80	0: 2: 5
	2Crf	21-72	permanently frozen weathered bedrock		---	---	---	---
31FA02: 31-Fairbanks-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A,Bw	3-30	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	30-72	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
31FA03: 31-Fairbanks-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A,Bw	3-30	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	30-72	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
31FA04: 31-Fairbanks-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A,Bw	3-30	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	30-72	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
31FA05: 31-Fairbanks-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A,Bw	3-30	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	30-72	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
31FA07: 31-Fairbanks, gullied ----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A,Bw	3-30	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	30-72	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
31-Fairbanks, gullied, steep -----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A,Bw	3-30	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	30-72	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
31FA11: 31-Fairbanks-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A,Bw	3-30	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	30-72	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
31-Steese-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	2-5	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	5-27	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2C	27-33	very channery silt loam	35:50: 70	channers	15:38: 50	50:60: 80	0: 2: 5
	2Cr	33-72	weathered bedrock		---	---	---	---
31GD01: 31-Goldstream -----	Oe	0-9	mucky peat	0: 0: 0	---	---	---	---
	A	9-12	mucky silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bjig	12-20	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Cgf	20-72	permanently frozen material		---	---	---	---

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments ≥2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
31GD02: 31-Goldstream -----	Oe	0-9	mucky peat	0: 0: 0	---	---	---	---
	A	9-12	mucky silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bjtg	12-20	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Cgf	20-72	permanently frozen material	---	---	---	---	---
31GD03: 31-Goldstream -----	Oe	0-9	mucky peat	0: 0: 0	---	---	---	---
	A	9-12	mucky silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bjtg	12-20	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Cgf	20-72	permanently frozen material	---	---	---	---	---
31-Histels -----	Oi	0-19	peat	0: 0: 0	---	---	---	---
	Bjj	19-25	very fine sandy loam	0: 0: 0	---	44:54: 65	32:41: 50	2: 5: 8
	Bjtf	25-35	permanently frozen very fine sandy loam	0: 0: 0	---	44:54: 65	32:41: 50	2: 5: 8
	Cf	35-72	permanently frozen very fine sandy loam	0: 0: 0	---	44:54: 65	32:41: 50	2: 5: 8
31GL02: 31-Gilmore -----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	6-12	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2BC	12-19	extremely channery silt loam	25:40: 40 20:20: 35	channers flagstones	15:37: 50	50:55: 80	3: 8: 10
	2Cr	19-72	weathered bedrock	---	---	---	---	---
31GL03: 31-Gilmore -----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	6-12	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2BC	12-19	extremely channery silt loam	25:40: 40 20:20: 35	channers flagstones	15:37: 50	50:55: 80	3: 8: 10
	2Cr	19-72	weathered bedrock	---	---	---	---	---
31GL04: 31-Gilmore -----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	6-12	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2BC	12-19	extremely channery silt loam	25:40: 40 20:20: 35	channers flagstones	15:37: 50	50:55: 80	3: 8: 10
	2Cr	19-72	weathered bedrock	---	---	---	---	---
31GL05: 31-Gilmore -----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	6-12	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2BC	12-19	extremely channery silt loam	25:40: 40 20:20: 35	channers flagstones	15:37: 50	50:55: 80	3: 8: 10
	2Cr	19-72	weathered bedrock	---	---	---	---	---

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
31GL06: 31-Gilmore -----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	6-12	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2BC	12-19	extremely channery silt loam	25:40: 40 20:20: 35	channers flagstones	15:37: 50	50:55: 80	3: 8: 10
	2Cr	19-72	weathered bedrock		---	---	---	---
31HA01: 31-Happy -----	Oe	0-2	moderately decomposed plant material	0: 0: 0	---	---	---	---
	C/O	2-5	stratified silt loam to moderately decomposed plant material	0: 0: 0	---	5: 6: 17	70:88: 90	3: 6: 10
	C	5-20	silt loam	0: 0: 0	---	10:23: 27	70:70: 87	3: 7: 10
	C/O'	20-32	stratified silt loam to moderately decomposed plant material	0: 0: 0	---	10:10: 17	80:83: 87	3: 7: 10
	Cf	32-72	permanently frozen material		---	---	---	---
31MC01: 31-McCloud -----	Oi	0-3	peat	0: 0: 0	---	---	---	---
	Bw	3-20	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	20-29	silt loam	0: 0: 0	---	10:20: 50	35:72: 80	3: 8: 15
	2Cr	29-72	weathered bedrock		---	---	---	---
31MC02: 31-McCloud -----	Oi	0-3	peat	0: 0: 0	---	---	---	---
	Bw	3-20	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	20-29	silt loam	0: 0: 0	---	10:20: 50	35:72: 80	3: 8: 15
	2Cr	29-72	weathered bedrock		---	---	---	---
31MC03: 31-McCloud -----	Oi	0-3	peat	0: 0: 0	---	---	---	---
	Bw	3-20	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	20-29	silt loam	0: 0: 0	---	10:20: 50	35:72: 80	3: 8: 15
	2Cr	29-72	weathered bedrock		---	---	---	---
31-Fairbanks-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A,Bw	3-30	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	30-72	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
31MN01: 31-Minto-----	Oi	0-5	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	5-9	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	9-16	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
	C	16-72	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
31MN02: 31-Minto-----	Oi	0-5	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	5-9	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	9-16	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
	C	16-72	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments ≥2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
31MN03: 31-Minto-----	Oi	0-5	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	5-9	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	9-16	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
	C	16-72	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
31MN04: 31-Minto-----	Oi	0-5	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	5-9	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	9-16	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
	C	16-72	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
31MN05: 31-Minto-----	Oi	0-5	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	5-9	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	9-16	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
	C	16-72	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
31-Chatanika -----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	4-6	mucky silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C/Ag	6-21	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Cgf	21-72	permanently frozen silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
31MN06: 31-Minto-----	Oi	0-5	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	5-9	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	9-16	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
	C	16-72	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
31-Chatanika -----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	4-6	mucky silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C/Ag	6-21	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Cgf	21-72	permanently frozen silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
31MN07: 31-Minto-----	Oi	0-5	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	5-9	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	9-16	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
	C	16-72	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
31-Chatanika -----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	4-6	mucky silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C/Ag	6-21	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Cgf	21-72	permanently frozen silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14



Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
31RS01: 31-Rosie -----	A	0-12	silt loam	0: 5: 7	channers	10:17: 18	71:75: 80	3: 8: 14
	Bk1	12-22	channery silt loam	15:30: 35	channers	6:12: 14	72:80: 85	3: 8: 14
	Bk2	22-28	very channery very fine sandy loam	25:30: 50 1: 5: 25	channers flagstones	15:55: 70	20:37: 80	3: 8: 10
	2Cr	28-72	weathered bedrock		---	---	---	---
31SA06: 31-Saulich -----	Oi	0-16	peat	0: 0: 0	---	---	---	---
	Bg/A	16-21	mucky silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Cgf	21-72	permanently frozen silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
31-Minto-----	Oi	0-5	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	5-9	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	9-16	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
	C	16-72	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
31SA08: 31-Saulich -----	Oi	0-16	peat	0: 0: 0	---	---	---	---
	Bg/A	16-21	mucky silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Cgf	21-72	permanently frozen silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
31-Chatanika -----	Oi	0-4	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	4-6	mucky silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C/Ag	6-21	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Cgf	21-72	permanently frozen silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
31-Minto-----	Oi	0-5	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	5-9	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	9-16	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
	C	16-72	silt loam	0: 0: 0	---	6:12: 15	71:80: 85	3: 8: 14
31SR02: 31-Strelna -----	Oe	0-8	moderately decomposed plant material	0: 0: 0	---	---	---	---
	A	8-14	very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
	Bjj	14-22	very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
	Bjif	22-24	permanently frozen very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
	Cf	24-72	permanently frozen very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
31SR03: 31-Strelna -----	Oe	0-8	moderately decomposed plant material	0: 0: 0	---	---	---	---
	A	8-14	very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
	Bjj	14-22	very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
	Bjif	22-24	permanently frozen very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
	Cf	24-72	permanently frozen very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
31SR04: 31-Strelna -----	Oe	0-8	moderately decomposed plant material	0: 0: 0	---	---	---	---
	A	8-14	very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
	Bjj	14-22	very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
	Bjif	22-24	permanently frozen very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
	Cf	24-72	permanently frozen very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
31SR05: 31-Strelna -----	Oe	0-8	moderately decomposed plant material	0: 0: 0	---	---	---	---
	A	8-14	very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
	Bjj	14-22	very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
	Bjif	22-24	permanently frozen very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
	Cf	24-72	permanently frozen very fine sandy loam	0: 0: 0	---	40:55: 65	35:40: 60	2: 5: 10
31-Toghotthele -----	Oi	0-1	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	1-4	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw, BC	4-51	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	2C	51-72	fine sand	0: 0: 0	---	93:96: 99	1: 3: 6	0: 0: 1
31ST01: 31-Steese-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	2-5	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	5-27	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2C	27-33	very channery silt loam	35:50: 70	channers	15:38: 50	50:60: 80	0: 2: 5
	2Cr	33-72	weathered bedrock		---	---	---	---
31ST02: 31-Steese-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	2-5	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	5-27	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2C	27-33	very channery silt loam	35:50: 70	channers	15:38: 50	50:60: 80	0: 2: 5
	2Cr	33-72	weathered bedrock		---	---	---	---
31ST03: 31-Steese-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	2-5	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	5-27	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2C	27-33	very channery silt loam	35:50: 70	channers	15:38: 50	50:60: 80	0: 2: 5
	2Cr	33-72	weathered bedrock		---	---	---	---
31ST04: 31-Steese-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	2-5	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	5-27	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2C	27-33	very channery silt loam	35:50: 70	channers	15:38: 50	50:60: 80	0: 2: 5
	2Cr	33-72	weathered bedrock		---	---	---	---

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
31ST05: 31-Steese-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	2-5	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	5-27	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2C	27-33	very channery silt loam	35:50: 70	channers	15:38: 50	50:60: 80	0: 2: 5
	2Cr	33-72	weathered bedrock	---	---	---	---	---
31ST06: 31-Steese-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	2-5	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	5-27	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2C	27-33	very channery silt loam	35:50: 70	channers	15:38: 50	50:60: 80	0: 2: 5
	2Cr	33-72	weathered bedrock	---	---	---	---	---
31ST08: 31-Steese-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	2-5	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	5-27	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2C	27-33	very channery silt loam	35:50: 70	channers	15:38: 50	50:60: 80	0: 2: 5
	2Cr	33-72	weathered bedrock	---	---	---	---	---
31-Gilmore -----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	6-12	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2BC	12-19	extremely channery silt loam	25:40: 40 20:20: 35	channers flagstones	15:37: 50	50:55: 80	3: 8: 10
	2Cr	19-72	weathered bedrock	---	---	---	---	---
31ST09: 31-Steese-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	2-5	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	5-27	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2C	27-33	very channery silt loam	35:50: 70	channers	15:38: 50	50:60: 80	0: 2: 5
	2Cr	33-72	weathered bedrock	---	---	---	---	---
31-Gilmore -----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	6-12	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2BC	12-19	extremely channery silt loam	25:40: 40 20:20: 35	channers flagstones	15:37: 50	50:55: 80	3: 8: 10
	2Cr	19-72	weathered bedrock	---	---	---	---	---
31ST10: 31-Steese-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	2-5	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	5-27	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2C	27-33	very channery silt loam	35:50: 70	channers	15:38: 50	50:60: 80	0: 2: 5
	2Cr	33-72	weathered bedrock	---	---	---	---	---

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments >=2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
31ST10: 31-Gilmore -----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	6-12	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2BC	12-19	extremely channery silt loam	25:40: 40 20:20: 35	channers flagstones	15:37: 50	50:55: 80	3: 8: 10
	2Cr	19-72	weathered bedrock		---	---	---	---
31ST11: 31-Steese-----	Oi	0-2	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	2-5	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	5-27	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2C	27-33	very channery silt loam	35:50: 70	channers	15:38: 50	50:60: 80	0: 2: 5
	2Cr	33-72	weathered bedrock		---	---	---	---
31-Gilmore -----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	3-6	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw	6-12	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
	2BC	12-19	extremely channery silt loam	25:40: 40 20:20: 35	channers flagstones	15:37: 50	50:55: 80	3: 8: 10
	2Cr	19-72	weathered bedrock		---	---	---	---
31TG01: 31-Toghotthele -----	Oi	0-1	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	1-4	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw, BC	4-51	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	2C	51-72	fine sand	0: 0: 0	---	93:96: 99	1: 3: 6	0: 0: 1
31TG02: 31-Toghotthele -----	Oi	0-1	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	1-4	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw, BC	4-51	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	2C	51-72	fine sand	0: 0: 0	---	93:96: 99	1: 3: 6	0: 0: 1
31-Fairbanks-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A,Bw	3-30	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	30-72	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
31TG03: 31-Toghotthele -----	Oi	0-1	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	1-4	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw, BC	4-51	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	2C	51-72	fine sand	0: 0: 0	---	93:96: 99	1: 3: 6	0: 0: 1
31-Fairbanks-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A,Bw	3-30	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	30-72	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14

Table 5. Engineering Particle Size Data—Continued

Map symbol and soil name	Horizon	Depth	Representative texture	Rock fragments ≥2.0 mm		Fine earth fraction <2.0 mm		
				lo:rv: hi	Kind	Sand lo:rv: hi	Silt lo:rv: hi	Clay lo:rv: hi
		in		Pct.		Pct.	Pct.	Pct.
31TG04: 31-Toghotthele -----	Oi	0-1	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	1-4	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw, BC	4-51	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	2C	51-72	fine sand	0: 0: 0	---	93:96: 99	1: 3: 6	0: 0: 1
31-Fairbanks-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A,Bw	3-30	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	30-72	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
31TG05: 31-Toghotthele -----	Oi	0-1	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A	1-4	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	Bw, BC	4-51	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	2C	51-72	fine sand	0: 0: 0	---	93:96: 99	1: 3: 6	0: 0: 1
31-Fairbanks-----	Oi	0-3	slightly decomposed plant material	0: 0: 0	---	---	---	---
	A,Bw	3-30	silt loam	0: 0: 0	---	10:17: 18	71:75: 80	3: 8: 14
	C	30-72	silt loam	0: 0: 0	---	6:12: 13	71:80: 85	3: 8: 14
R29WAA: 29-Water -----		---			---	---	---	---
R31WAA: 29-Water -----		---			---	---	---	---

(See text for definitions of terms used in this table. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	ln/Hr	ln/ln	Pct.	Pct.					
28BU01: 28-Butchlake-----	0-3	0.05-0.10	6-20	0.13-0.17	---	85-95	---	---	5	2	134
	3-4	0.50-1.10	0.6-2	0.20-0.24	0.0-2.9	5.0-15	.37	.37			
	4-9	1.30-1.50	2-6	0.02-0.06	0.0-2.9	1.0-5.0	.10	.28			
	9-72	1.30-1.60	2-6	0.04-0.08	0.0-2.9	0.0-1.0	.10	.28			
28-Southpaw-----	0-4	0.05-0.10	2-6	0.13-0.17	---	85-95	---	---	2	2	134
	4-13	1.10-1.20	0.6-2	0.20-0.23	0.0-2.9	1.0-5.0	.37	.37			
	13-22	1.10-1.20	2-6	0.20-0.23	0.0-2.9	0.5-2.0	.37	.37			
	22-36	1.35-1.50	2-6	0.10-0.20	0.0-2.9	0.0-1.0	.20	.28			
	36-72	1.35-1.50	6-18	0.02-0.12	0.0-2.9	0.0-0.2	.10	.10			
28-Salchaket family -----	0-1	0.05-0.10	6-20	0.05-0.25	---	85-95	---	---	5	1	160
	1-14	1.40-1.80	6-20	0.03-0.07	0.0-1.0	1.0-4.0	.10	.10			
	14-15	0.05-0.10	0.2-1	0.05-0.35	---	85-95	---	---			
	15-72	1.30-1.50	0.6-2	0.03-0.22	0.0-2.9	0.5-2.0	.24	.28			
28SP01: 28-Southpaw-----	0-4	0.05-0.10	2-6	0.13-0.17	---	85-95	---	---	2	2	134
	4-13	1.10-1.20	0.6-2	0.20-0.23	0.0-2.9	1.0-5.0	.37	.37			
	13-22	1.10-1.20	2-6	0.20-0.23	0.0-2.9	0.5-2.0	.37	.37			
	22-36	1.35-1.50	2-6	0.10-0.20	0.0-2.9	0.0-1.0	.20	.28			
	36-72	1.35-1.50	6-18	0.02-0.12	0.0-2.9	0.0-0.2	.10	.10			
28-Butchlake-----	0-3	0.05-0.10	6-20	0.13-0.17	---	85-95	---	---	5	2	134
	3-4	0.50-1.10	0.6-2	0.20-0.24	0.0-2.9	5.0-15	.37	.37			
	4-9	1.30-1.50	2-6	0.02-0.06	0.0-2.9	1.0-5.0	.10	.28			
	9-72	1.30-1.60	2-6	0.04-0.08	0.0-2.9	0.0-1.0	.10	.28			
28SP02: 28-Southpaw-----	0-4	0.05-0.10	2-6	0.13-0.17	---	85-95	---	---	2	2	134
	4-13	1.10-1.20	0.6-2	0.20-0.23	0.0-2.9	1.0-5.0	.37	.37			
	13-22	1.10-1.20	2-6	0.20-0.23	0.0-2.9	0.5-2.0	.37	.37			
	22-36	1.35-1.50	2-6	0.10-0.20	0.0-2.9	0.0-1.0	.20	.28			
	36-72	1.35-1.50	6-18	0.02-0.12	0.0-2.9	0.0-0.2	.10	.10			
28-Butchlake-----	0-3	0.05-0.10	6-20	0.13-0.17	---	85-95	---	---	5	2	134
	3-4	0.50-1.10	0.6-2	0.20-0.24	0.0-2.9	5.0-15	.37	.37			
	4-9	1.30-1.50	2-6	0.02-0.06	0.0-2.9	1.0-5.0	.10	.28			
	9-72	1.30-1.60	2-6	0.04-0.08	0.0-2.9	0.0-1.0	.10	.28			
28TE01: 28-Terric Hemistels -----	0-20	0.07-0.18	0.6-2	0.43-0.47	---	75-90	---	---	1	8	0
	20-24	0.30-0.70	0.6-3	0.30-0.34	0.0-2.9	12-19	.37	.37			
	24-72	0.30-0.70	0.000-0.001	---	0.0-2.9	1.0-5.0	---	---			
28-Typic Aquiturbels-----	0-7	0.07-0.18	0.6-2	0.43-0.47	---	75-90	---	---	1	8	0
	7-15	0.90-1.30	0.6-2	0.20-0.24	0.0-2.9	1.0-7.0	.20	.20			
	15-33	---	0.000-0.001	---	---	0.0-0.5	---	---			
	33-41	---	0.000-0.001	---	---	0.0-0.0	---	---			
	41-72	---	0.000-0.001	---	---	0.0-0.0	---	---			
28-Water-----	---	---	---	---	---	---	---	---	-	---	---

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
29AE01: 29-Aquic Haplocrypts -----	0-2 2-18 18-72	0.80-1.20 1.20-1.50 1.60-1.70	0.6-2 0.6-2 6-20	0.20-0.22 0.15-0.22 0.02-0.05	0.0-2.9 0.0-2.9 0.0-2.9	2.0-10 0.5-6.0 0.0-1.0	.37 .43 .05	.37 .43 .10	1	2	134
29-Typic Cryaquepts -----	0-5 5-60	1.20-1.60 1.20-1.60	0.6-2 0.6-2	0.26-0.30 0.26-0.30	0.0-2.9 0.0-2.9	1.0-5.0 0.5-3.0	.37 .43	.37 .43	5	8	0
29CH01: 29-Chena -----	0-4 4-9 9-72	0.05-0.10 1.10-1.20 1.40-1.50	6-20 0.6-6 6-20	0.05-0.35 0.16-0.18 0.03-0.05	--- 0.0-2.9 0.0-2.9	85-95 3.0-6.0 0.0-1.0	--- .28 .10	--- .32 .28	5	2	134
29EL01: 29-Eielson -----	0-2 2-49 49-71 71-72	0.05-0.10 1.10-1.20 1.10-1.20 1.50-1.60	6-20 0.6-2 0.6-2 6-20	0.05-0.35 0.20-0.22 0.20-0.22 0.02-0.04	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 3.0-6.0 1.0-5.0 0.0-1.0	--- .37 .43 .05	--- .37 .43 .28	5	2	134
29-Piledriver,----- occasionally flooded	0-3 3-15 15-33 33-72	0.05-0.10 1.10-1.20 1.10-1.20 1.60-1.70	6-20 0.6-2 0.6-2 6-20	0.05-0.35 0.19-0.22 0.15-0.18 0.03-0.06	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 3.0-6.0 1.0-5.0 0.0-1.0	--- .37 .32 .05	--- .37 .32 .28	2	2	134
29EL02: 29-Eielson, rarely----- flooded	0-2 2-49 49-71 71-72	0.05-0.10 1.10-1.20 1.10-1.20 1.50-1.60	6-20 0.6-2 0.6-2 6-20	0.05-0.35 0.20-0.22 0.20-0.22 0.02-0.04	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 3.0-6.0 1.0-5.0 0.0-1.0	--- .37 .43 .05	--- .37 .43 .28	5	2	134
29-Tanana-----	0-3 3-6 6-25 25-72	0.05-0.10 1.10-1.20 1.10-1.20 ---	6-20 0.6-2 0.6-2 0.000-0.001	0.05-0.35 0.20-0.23 0.20-0.23 ---	--- 0.0-2.9 0.0-2.9 ---	85-95 2.0-6.0 0.0-2.0 0.0-2.0	--- .37 .43 ---	--- .37 .43 ---	2	8	0
29FU01: 29-Fubar, occasionally----- flooded	0-2 2-10 10-72	0.05-0.10 1.20-1.30 1.50-1.60	6-20 0.6-2 6-20	0.05-0.35 0.20-0.22 0.03-0.05	--- 0.0-2.9 0.0-2.9	85-95 2.0-4.0 0.0-1.0	--- .32 .05	--- .32 .28	1	2	134
29-Piledriver,----- occasionally flooded	0-3 3-15 15-33 33-72	0.05-0.10 1.10-1.20 1.10-1.20 1.60-1.70	6-20 0.6-2 0.6-2 6-20	0.05-0.35 0.19-0.22 0.15-0.18 0.03-0.06	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 3.0-6.0 1.0-5.0 0.0-1.0	--- .37 .32 .05	--- .37 .32 .28	2	2	134
29GE01: 29-Gerstle -----	0-4 4-10 10-20 20-30 30-51 51-72	0.10-0.40 0.90-1.30 0.90-1.30 1.20-1.40 1.20-1.45 1.35-1.60	4-18 2-6 2-6 4-13 6-20 6-20	0.15-0.40 0.17-0.25 0.17-0.25 0.12-0.22 0.04-0.07 0.04-0.06	--- 0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	24-93 1.0-5.0 0.5-1.0 0.0-1.0 0.0-0.0 0.0-0.0	--- .37 .43 .37 .32 .20	--- .37 .43 .37 .32 .28	3	2	134
29-Moosehead -----	0-5 5-7 7-20 20-26 26-72	0.05-0.10 1.00-1.20 1.00-1.20 1.20-1.48 1.20-1.50	6-20 0.6-2 1-13 0.4-2 2-17	0.05-0.35 0.20-0.22 0.13-0.22 0.12-0.17 0.03-0.04	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	85-95 4.0-8.0 0.0-2.0 0.0-1.0 0.0-1.0	--- .37 .43 .32 .10	--- .37 .43 .32 .20	5	2	134

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
29GE02: 29-Gerstle -----	0-4	0.10-0.40	4-18	0.15-0.40	---	24-93	---	---	3	2	134
	4-10	0.90-1.30	2-6	0.17-0.25	0.0-2.9	1.0-5.0	.37	.37			
	10-20	0.90-1.30	2-6	0.17-0.25	0.0-2.9	0.5-1.0	.43	.43			
	20-30	1.20-1.40	4-13	0.12-0.22	0.0-2.9	0.0-1.0	.37	.37			
	30-51	1.20-1.45	6-20	0.04-0.07	0.0-2.9	0.0-0.0	.32	.32			
	51-72	1.35-1.60	6-20	0.04-0.06	0.0-2.9	0.0-0.0	.20	.28			
29-Tanana-----	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	8	0
	3-6	1.10-1.20	0.6-2	0.20-0.23	0.0-2.9	2.0-6.0	.37	.37			
	6-25	1.10-1.20	0.6-2	0.20-0.23	0.0-2.9	0.0-2.0	.43	.43			
	25-72	---	0.000-0.001	---	---	0.0-2.0	---	---			
29GE04: 29-Gerstle family -----	0-3	0.12-0.22	0.3-1	0.05-0.35	---	70-88	---	---	3	2	134
	3-7	1.06-1.21	0.000-0.7	0.21-0.23	0.0-2.9	2.0-4.0	.37	.37			
	7-20	0.83-1.00	0.1-1	0.15-0.23	0.0-2.9	1.0-3.0	.43	.43			
	20-57	1.21-1.39	1-4	0.05-0.23	0.0-2.9	1.0-3.0	.43	.43			
	57-72	1.50-1.70	4-14	0.04-0.05	0.0-2.9	0.0-1.0	.20	.28			
29-Tanacross family -----	0-7	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	1	8	0
	7-13	0.07-0.18	0.6-2	0.35-0.50	---	75-90	---	---			
	13-19	1.14-1.36	0.1-1	0.14-0.23	0.0-2.9	3.0-7.0	.24	.32			
	19-24	1.05-1.20	0.000-0.4	0.21-0.23	0.0-2.9	1.0-5.0	.43	.43			
	24-52	---	0.000-0.001	---	---	1.0-4.0	---	---			
	52-72	---	0.000-0.001	---	---	---	---	---			
29JV01: 29-Jarvis -----	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	3-6	1.10-1.20	0.6-2	0.19-0.22	0.0-2.9	3.0-6.0	.37	.37			
	6-24	1.10-1.20	0.6-2	0.15-0.18	0.0-2.9	1.0-5.0	.32	.32			
	24-72	1.60-1.70	6-20	0.03-0.06	0.0-2.9	0.0-1.0	.05	.28			
29JV02: 29-Jarvis, occasionally ----- flooded	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	3-6	1.10-1.20	0.6-2	0.19-0.22	0.0-2.9	3.0-6.0	.37	.37			
	6-24	1.10-1.20	0.6-2	0.15-0.18	0.0-2.9	1.0-5.0	.32	.32			
	24-72	1.60-1.70	6-20	0.03-0.06	0.0-2.9	0.0-1.0	.05	.28			
29JV04: 29-Jarvis -----	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	3-6	1.10-1.20	0.6-2	0.19-0.22	0.0-2.9	3.0-6.0	.37	.37			
	6-24	1.10-1.20	0.6-2	0.15-0.18	0.0-2.9	1.0-5.0	.32	.32			
	24-72	1.60-1.70	6-20	0.03-0.06	0.0-2.9	0.0-1.0	.05	.28			
29-Salchaket-----	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	3	2	134
	3-24	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	3.0-6.0	.37	.37			
	24-45	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	45-72	1.50-1.60	6-20	0.02-0.04	0.0-2.9	0.0-1.0	.05	.28			



Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
29JV05: 29-Jarvis, occasionally flooded	0-3 3-6 6-24 24-72	0.05-0.10 1.10-1.20 1.10-1.20 1.60-1.70	6-20 0.6-2 0.6-2 6-20	0.05-0.35 0.19-0.22 0.15-0.18 0.03-0.06	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 3.0-6.0 1.0-5.0 0.0-1.0	--- .37 .32 .05	--- .37 .32 .28	2	2	134
29-Salchaket,----- occasionally flooded	0-3 3-24 24-45 45-72	0.05-0.10 1.10-1.20 1.10-1.20 1.50-1.60	6-20 0.6-2 0.6-2 6-20	0.05-0.35 0.20-0.22 0.20-0.22 0.02-0.04	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 3.0-6.0 1.0-5.0 0.0-1.0	--- .37 .43 .05	--- .37 .43 .28	3	2	134
29KU01: 29-Koyukuk -----	0-6 6-34 34-72	0.05-0.10 1.05-1.20 1.18-1.36	6-20 0.000-0.4 0.1-0.4	0.05-0.35 0.21-0.23 0.17-0.21	--- 0.0-2.9 0.0-2.9	85-95 3.0-7.0 2.0-4.0	--- .37 .20	--- .37 .37	5	2	134
29-Audrey family-----	0-8 8-13 13-26 26-72	0.05-0.10 1.07-1.22 1.06-1.21 1.06-1.27	6-20 0.1-0.9 0.000-0.7 0.3-1	0.05-0.35 0.20-0.24 0.20-0.24 0.05-0.20	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 2.0-6.0 2.0-5.0 1.0-3.0	--- .37 .37 .17	--- .37 .37 .37	5	2	134
29KZ01: 29-Iksgiza-----	0-5 5-8 8-12 12-21 21-24 24-72	0.05-0.18 0.40-0.55 1.04-1.21 1.09-1.29 --- ---	0.6-20 0.001-0.06 0.1-1 0.1-1.0 0.000-0.001 0.000-0.001	0.05-0.50 0.40-0.55 0.21-0.23 0.21-0.23 --- ---	--- --- 0.0-2.9 0.0-2.9 --- ---	75-95 60-85 3.0-6.0 2.0-5.0 1.0-4.0 0.5-2.0	--- --- .37 .43 --- ---	--- --- .37 .43 --- ---	2	8	0
29-Histels -----	0-18 18-25 25-35 35-72	0.05-0.30 1.06-1.21 --- ---	0.03-20 0.000-0.7 0.000-0.001 0.000-0.001	0.05-0.55 0.20-0.23 --- ---	--- 0.0-2.9 --- ---	60-95 3.0-6.0 3.0-6.0 3.0-6.0	--- .43 --- ---	--- .43 --- ---	2	8	0
29KZ02: 29-Iksgiza-----	0-5 5-8 8-12 12-21 21-24 24-72	0.05-0.18 0.40-0.55 1.04-1.21 1.09-1.29 --- ---	0.6-20 0.001-0.06 0.1-1 0.1-1.0 0.000-0.001 0.000-0.001	0.05-0.50 0.40-0.55 0.21-0.23 0.21-0.23 --- ---	--- --- 0.0-2.9 0.0-2.9 --- ---	75-95 60-85 3.0-6.0 2.0-5.0 1.0-4.0 0.5-2.0	--- --- .37 .43 --- ---	--- --- .37 .43 --- ---	2	8	0
29-Lupine family -----	0-1 1-7 7-18 18-25 25-72	0.05-0.10 1.03-1.22 1.08-1.25 1.35-1.62 1.49-1.65	6-20 0.1-1.0 0.1-1.0 1-5 3-12	0.05-0.35 0.18-0.24 0.15-0.22 0.15-0.22 0.04-0.07	--- 2.0-4.0 1.0-3.0 0.0-1.0 0.0-0.0	85-95 1.0-5.0 1.0-2.0 0.0-1.0 0.0-0.0	--- .37 .43 .20 .15	--- .37 .43 .20 .15	5	2	134
29LS03: 29-Liscum -----	0-3 3-11 11-15 15-70 70-72	0.05-0.10 0.20-0.30 1.00-1.20 1.20-1.60 1.30-1.50	6-20 0.001-0.06 0.6-2 0.6-2 2-6	0.05-0.35 0.25-0.30 0.20-0.22 0.15-0.22 0.10-0.14	--- --- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 60-85 4.0-8.0 1.0-5.0 1.0-3.0	--- --- .37 .43 .20	--- --- .37 .43 .28	5	8	0
29-Terric Cryohemists-----	0-3 3-12 12-22 22-72	0.05-0.10 0.05-0.10 0.05-0.10 1.10-1.20	6-20 0.6-2 0.01-0.06 0.01-20	0.05-0.35 0.30-0.50 0.35-0.60 0.03-0.35	--- --- --- 0.0-2.9	85-95 85-95 85-95 1.0-12	--- --- --- .43	--- --- --- .43	1	8	0

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
29LU01: 29-Lupine -----	0-3	0.07-0.18	0.6-2	0.35-0.50	---	75-90	---	---	2	2	134
	3-6	1.04-1.20	0.6-2	0.18-0.25	0.0-2.9	1.0-5.0	.37	.37			
	6-16	1.08-1.25	0.6-2	0.18-0.24	0.0-2.9	0.0-1.0	.43	.43			
	16-20	1.12-1.31	2-6	0.14-0.22	0.0-2.9	0.0-0.2	.43	.43			
	20-72	1.47-1.65	6-20	0.02-0.05	0.0-2.9	0.0-0.2	.05	.20			
29LU02: 29-Lupine family -----	0-1	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	5	2	134
	1-7	1.03-1.22	0.1-1.0	0.18-0.24	2.0-4.0	1.0-5.0	.37	.37			
	7-18	1.08-1.25	0.1-1.0	0.15-0.22	1.0-3.0	1.0-2.0	.43	.43			
	18-25	1.35-1.62	1-5	0.15-0.22	0.0-1.0	0.0-1.0	.20	.20			
	25-72	1.49-1.65	3-12	0.04-0.07	0.0-0.0	0.0-0.0	.15	.15			
29-Beales -----	0-4	0.10-0.35	6-20	0.20-0.30	---	80-95	---	---	1	2	134
	4-8	1.07-1.22	0.1-0.9	0.17-0.22	0.1-2.9	1.0-10	.37	.37			
	8-12	1.01-1.19	0.1-1	0.15-0.22	0.1-2.9	0.0-1.0	.43	.43			
	12-20	1.40-1.59	2-7	0.05-0.08	0.1-2.9	0.0-1.0	.28	.28			
	20-72	1.47-1.63	3-12	0.04-0.05	0.1-2.9	0.0-0.0	.15	.15			
29LU03: 29-Lupine family -----	0-1	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	5	2	134
	1-7	1.03-1.22	0.1-1.0	0.18-0.24	2.0-4.0	1.0-5.0	.37	.37			
	7-18	1.08-1.25	0.1-1.0	0.15-0.22	1.0-3.0	1.0-2.0	.43	.43			
	18-25	1.35-1.62	1-5	0.15-0.22	0.0-1.0	0.0-1.0	.20	.20			
	25-72	1.49-1.65	3-12	0.04-0.07	0.0-0.0	0.0-0.0	.15	.15			
29-Beales -----	0-4	0.10-0.35	6-20	0.20-0.30	---	80-95	---	---	1	2	134
	4-8	1.07-1.22	0.1-0.9	0.17-0.22	0.1-2.9	1.0-10	.37	.37			
	8-12	1.01-1.19	0.1-1	0.15-0.22	0.1-2.9	0.0-1.0	.43	.43			
	12-20	1.40-1.59	2-7	0.05-0.08	0.1-2.9	0.0-1.0	.28	.28			
	20-72	1.47-1.63	3-12	0.04-0.05	0.1-2.9	0.0-0.0	.15	.15			
29LU04: 29-Lupine family -----	0-1	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	5	2	134
	1-7	1.03-1.22	0.1-1.0	0.18-0.24	2.0-4.0	1.0-5.0	.37	.37			
	7-18	1.08-1.25	0.1-1.0	0.15-0.22	1.0-3.0	1.0-2.0	.43	.43			
	18-25	1.35-1.62	1-5	0.15-0.22	0.0-1.0	0.0-1.0	.20	.20			
	25-72	1.49-1.65	3-12	0.04-0.07	0.0-0.0	0.0-0.0	.15	.15			
29-Bohica -----	0-4	0.07-0.18	0.6-2	0.35-0.50	---	75-95	---	---	2	2	134
	4-11	1.05-1.22	0.1-0.7	0.21-0.23	0.0-2.9	3.0-6.0	.37	.37			
	11-27	1.06-1.21	0.000-0.7	0.21-0.23	0.0-2.9	1.0-3.0	.43	.43			
	27-42	1.12-1.33	0.1-1	0.15-0.22	0.0-2.9	0.0-1.0	.43	.43			
	42-72	1.07-1.22	3-10	0.04-0.17	0.0-2.9	0.0-0.0	.15	.15			
29-lksgiza -----	0-5	0.05-0.18	0.6-20	0.05-0.50	---	75-95	---	---	2	8	0
	5-8	0.40-0.55	0.001-0.06	0.40-0.55	---	60-85	---	---			
	8-12	1.04-1.21	0.1-1	0.21-0.23	0.0-2.9	3.0-6.0	.37	.37			
	12-21	1.09-1.29	0.1-1.0	0.21-0.23	0.0-2.9	2.0-5.0	.43	.43			
	21-24	---	0.000-0.001	---	---	1.0-4.0	---	---			
	24-72	---	0.000-0.001	---	---	0.5-2.0	---	---			
29LU05: 29-Lupine -----	0-3	0.07-0.18	0.6-2	0.35-0.50	---	75-90	---	---	2	2	134
	3-6	1.04-1.20	0.6-2	0.18-0.25	0.0-2.9	1.0-5.0	.37	.37			
	6-16	1.08-1.25	0.6-2	0.18-0.24	0.0-2.9	0.0-1.0	.43	.43			
	16-20	1.12-1.31	2-6	0.14-0.22	0.0-2.9	0.0-0.2	.43	.43			
	20-72	1.47-1.65	6-20	0.02-0.05	0.0-2.9	0.0-0.2	.05	.20			

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/in	Pct.	Pct.					
29LUO5: 29-Jarvis -----	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	3-6	1.10-1.20	0.6-2	0.19-0.22	0.0-2.9	3.0-6.0	.37	.37			
	6-24	1.10-1.20	0.6-2	0.15-0.18	0.0-2.9	1.0-5.0	.32	.32			
	24-72	1.60-1.70	6-20	0.03-0.06	0.0-2.9	0.0-1.0	.05	.28			
29MH01: 29-Moosehead family -----	0-3	0.05-0.18	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	3-6	1.05-1.20	0.02-1	0.20-0.24	0.0-2.9	2.0-6.0	.37	.37			
	6-7	0.05-0.18	6-20	0.05-0.35	---	85-95	---	---			
	7-14	1.05-1.20	0.02-1	0.20-0.24	0.0-2.9	2.0-6.0	.43	.43			
	14-26	1.00-1.40	0.02-1	0.15-0.25	0.0-2.9	1.0-5.0	.32	.32			
	26-72	1.40-1.70	6-20	0.02-0.07	0.0-1.0	0.0-1.0	.10	.10			
29-Nenana -----	0-3	0.07-0.18	0.6-2	0.35-0.50	---	75-90	---	---	2	2	134
	3-6	1.05-1.20	0.6-2	0.20-0.24	0.0-2.9	3.0-6.0	.37	.37			
	6-13	1.05-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-4.0	.43	.43			
	13-20	1.13-1.36	0.6-20	0.12-0.22	0.0-2.9	0.0-1.0	.28	.43			
	20-72	1.45-1.65	6-20	0.02-0.04	0.0-2.9	0.0-1.0	.10	.20			
29NE01: 29-Nenana -----	0-3	0.07-0.18	0.6-2	0.35-0.50	---	75-90	---	---	2	2	134
	3-6	1.05-1.20	0.6-2	0.20-0.24	0.0-2.9	3.0-6.0	.37	.37			
	6-13	1.05-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-4.0	.43	.43			
	13-20	1.13-1.36	0.6-20	0.12-0.22	0.0-2.9	0.0-1.0	.28	.43			
	20-72	1.45-1.65	6-20	0.02-0.04	0.0-2.9	0.0-1.0	.10	.20			
29NE03: 29-Nenana -----	0-3	0.07-0.18	0.6-2	0.35-0.50	---	75-90	---	---	2	2	134
	3-6	1.05-1.20	0.6-2	0.20-0.24	0.0-2.9	3.0-6.0	.37	.37			
	6-13	1.05-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-4.0	.43	.43			
	13-20	1.13-1.36	0.6-20	0.12-0.22	0.0-2.9	0.0-1.0	.28	.43			
	20-72	1.45-1.65	6-20	0.02-0.04	0.0-2.9	0.0-1.0	.10	.20			
29-Donnelly -----	0-2	0.05-0.10	6-20	0.05-0.35	0.0-2.9	85-95	---	---	1	8	0
	2-6	1.20-1.30	0.6-2	0.12-0.23	0.0-2.9	2.0-4.0	.28	.37			
	6-12	1.20-1.30	2-6	0.08-0.18	0.0-2.9	0.0-1.0	.32	.37			
	12-72	1.40-1.50	6-20	0.02-0.04	0.0-2.9	0.0-0.0	.10	.20			
29PL01: 29-Eielson, rarely flooded -----	0-2	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	5	2	134
	2-49	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	3.0-6.0	.37	.37			
	49-71	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	71-72	1.50-1.60	6-20	0.02-0.04	0.0-2.9	0.0-1.0	.05	.28			
29-Piledriver -----	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	3-15	1.10-1.20	0.6-2	0.19-0.22	0.0-2.9	3.0-6.0	.37	.37			
	15-33	1.10-1.20	0.6-2	0.15-0.18	0.0-2.9	1.0-5.0	.32	.32			
	33-72	1.60-1.70	6-20	0.03-0.06	0.0-2.9	0.0-1.0	.05	.28			
29PT01: 29-Pits, gravel -----	---	---	---	---	---	---	---	---	-	---	---
29PT02: 29-Pits, quarry -----	---	---	---	---	---	---	---	---	-	---	---

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
29RC01: 29-Richardson-----	0-1 1-20 20-59 59-72	0.05-0.18 1.35-1.55 1.35-1.55 1.55-1.70	0.6-20 0.6-2 0.6-2 20-20	0.05-0.50 0.18-0.23 0.18-0.23 0.02-0.08	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	75-95 1.0-4.0 0.0-0.5 0.0-0.2	--- .37 .37 .10	--- .37 .43 .20	4	2	134
29-Salchaket,----- occasionally flooded	0-3 3-24 24-45 45-72	0.05-0.10 1.10-1.20 1.10-1.20 1.50-1.60	6-20 0.6-2 0.6-2 6-20	0.05-0.35 0.20-0.22 0.20-0.22 0.02-0.04	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 3.0-6.0 1.0-5.0 0.0-1.0	--- .37 .43 .05	--- .37 .43 .28	3	2	134
29SA01: 29-Sawmill Creek-----	0-4 4-5 5-12 12-14 14-72	0.05-0.18 0.95-1.16 1.02-1.19 1.30-1.65 1.43-1.68	0.6-20 0.1-1 0.1-0.7 0.3-3 2-6	0.25-0.50 0.20-0.23 0.20-0.23 0.15-0.20 0.02-0.03	--- 1.0-2.9 1.0-2.9 1.0-2.9 0.0-2.9	80-95 2.0-6.0 1.0-3.0 0.0-1.0 0.0-0.0	--- .37 .43 .32 .05	--- .37 .43 .32 .15	1	2	134
29SC01: 29-Salchaket family-----	0-4 4-8 8-72	0.05-0.10 1.07-1.22 1.30-1.47	6-20 0.1-0.9 2-8	0.05-0.35 0.21-0.23 0.05-0.22	--- 0.0-2.9 0.0-2.9	85-95 1.0-4.0 0.0-4.0	--- .43 .37	--- .43 .37	5	2	134
29-Hogan family-----	0-6 6-8 8-24 24-47 47-72	0.05-0.10 0.07-0.30 1.21-1.38 1.40-1.59 ---	6-20 0.007-0.6 0.6-3 2-9 0.000-0.001	0.05-0.35 0.37-0.52 0.15-0.22 0.05-0.22 ---	--- --- 0.0-2.9 0.0-2.9 ---	85-95 67-87 2.0-5.0 1.0-3.0 ---	--- --- .37 .20 ---	--- --- .37 .20 ---	5	8	0
29SC02: 29-Salchaket-----	0-3 3-24 24-45 45-72	0.05-0.10 1.10-1.20 1.10-1.20 1.50-1.60	6-20 0.6-2 0.6-2 6-20	0.05-0.35 0.20-0.22 0.20-0.22 0.02-0.04	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 3.0-6.0 1.0-5.0 0.0-1.0	--- .37 .43 .05	--- .37 .43 .28	3	2	134
29SC03: 29-Salchaket,----- occasionally flooded	0-3 3-24 24-45 45-72	0.05-0.10 1.10-1.20 1.10-1.20 1.50-1.60	6-20 0.6-2 0.6-2 6-20	0.05-0.35 0.20-0.22 0.20-0.22 0.02-0.04	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 3.0-6.0 1.0-5.0 0.0-1.0	--- .37 .43 .05	--- .37 .43 .28	3	2	134
29TC01: 29-Tanacross-----	0-9 9-11 11-17 17-48 48-72	0.05-0.27 0.80-1.20 1.10-1.40 --- ---	6-20 0.6-2 0.6-6 0.000-0.001 0.000-0.001	0.05-0.35 0.20-0.22 0.17-0.22 --- ---	--- 0.0-2.9 0.0-2.9 --- ---	85-95 5.0-10 0.0-1.0 3.0-5.0 ---	--- .37 .43 .49 ---	--- .37 .43 .49 ---	1	8	0
29TC02: 29-Tanacross family-----	0-7 7-13 13-19 19-24 24-52 52-72	0.05-0.10 0.07-0.18 1.14-1.36 1.05-1.20 --- ---	6-20 0.6-2 0.1-1 0.000-0.4 0.000-0.001 0.000-0.001	0.05-0.35 0.35-0.50 0.14-0.23 0.21-0.23 --- ---	--- --- 0.0-2.9 0.0-2.9 --- ---	85-95 75-90 3.0-7.0 1.0-5.0 1.0-4.0 ---	--- --- .24 .43 --- ---	--- --- .32 .43 --- ---	1	8	0

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
29TC02: 29-Moosehead -----	0-5 5-7 7-20 20-26 26-72	0.05-0.10 1.00-1.20 1.00-1.20 1.20-1.48 1.20-1.50	6-20 0.6-2 1-13 0.4-2 2-17	0.05-0.35 0.20-0.22 0.13-0.22 0.12-0.17 0.03-0.04	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	85-95 4.0-8.0 0.0-2.0 0.0-1.0 0.0-1.0	--- .37 .43 .32 .10	--- .37 .43 .32 .20	5	2	134
29TC03: 29-Tanacross, ----- occasionally flooded	0-9 9-11 11-17 17-48 48-72	0.05-0.27 0.80-1.20 1.10-1.40 --- ---	6-20 0.6-2 0.6-6 0.000-0.001 0.000-0.001	0.05-0.35 0.20-0.22 0.17-0.22 --- ---	--- 0.0-2.9 0.0-2.9 --- ---	85-95 5.0-10 0.0-1.0 3.0-5.0 ---	--- .37 .43 .49 ---	--- .37 .43 .49 ---	1	8	0
29-Histels -----	0-18 18-25 25-35 35-72	0.05-0.30 1.06-1.21 --- ---	0.03-20 0.000-0.7 0.000-0.001 0.000-0.001	0.05-0.55 0.20-0.23 --- ---	--- 0.0-2.9 --- ---	60-95 3.0-6.0 3.0-6.0 3.0-6.0	--- .43 --- ---	--- .43 --- ---	2	8	0
29TN01: 29-Tanana -----	0-3 3-6 6-25 25-72	0.05-0.10 1.10-1.20 1.10-1.20 ---	6-20 0.6-2 0.6-2 0.000-0.001	0.05-0.35 0.20-0.23 0.20-0.23 ---	--- 0.0-2.9 0.0-2.9 ---	85-95 2.0-6.0 0.0-2.0 0.0-2.0	--- .37 .43 ---	--- .37 .43 ---	2	8	0
29TS01: 29-Terric Sapristels -----	0-19 19-25 25-72	0.05-0.30 1.06-1.21 ---	0.03-20 0.000-0.7 0.000-0.001	0.05-0.55 0.20-0.23 ---	--- 0.0-2.9 ---	60-95 3.0-6.0 3.0-6.0	--- .37 ---	--- .37 ---	2	8	0
29VM01: 29-Volkmar -----	0-4 4-8 8-18 18-30 30-72	0.05-0.20 1.02-1.20 1.07-1.24 1.05-1.20 1.36-1.58	6-20 0.6-2 0.6-2 0.6-2 6-20	0.10-0.50 0.18-0.26 0.16-0.24 0.15-0.23 0.03-0.06	--- 0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	75-95 2.0-5.5 1.0-5.0 0.0-2.0 0.0-1.0	--- .32 .37 .43 .10	--- .32 .37 .43 .20	2	2	134
29WR01: 29-Water -----	---	---	---	---	---	---	---	---	-	---	---
29-Riverwash -----	---	---	---	---	---	---	---	---	-	---	---
31AN02: 31-Angel -----	0-2 2-4 4-8 8-19 19-72	0.05-0.10 1.10-1.30 1.10-1.30 1.40-1.60 ---	2-20 0.6-2 0.6-2 2-6 2-14	0.05-0.50 0.20-0.22 0.20-0.22 0.05-0.10 ---	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 ---	85-95 3.0-8.0 1.0-5.0 0.0-1.0 ---	--- .37 .43 .15 ---	--- .37 .43 .32 ---	1	2	134
31-McCloud -----	0-3 3-20 20-29 29-72	0.05-0.18 1.10-1.30 1.10-1.30 ---	2-20 0.6-2 0.6-2 0.000-0.001	0.05-0.50 0.20-0.22 0.20-0.22 ---	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	85-95 1.0-5.0 0.0-1.0 ---	--- .37 .43 ---	--- .37 .43 ---	2	2	134

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
31AN03: 31-Angel -----	0-2 2-4 4-8 8-19 19-72	0.05-0.10 1.10-1.30 1.10-1.30 1.40-1.60 ---	2-20 0.6-2 0.6-2 2-6 2-14	0.05-0.50 0.20-0.22 0.20-0.22 0.05-0.10 ---	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 ---	85-95 3.0-8.0 1.0-5.0 0.0-1.0 ---	--- .37 .43 .15 ---	--- .37 .43 .32 ---	1	2	134
31-McCloud -----	0-3 3-20 20-29 29-72	0.05-0.18 1.10-1.30 1.10-1.30 ---	2-20 0.6-2 0.6-2 0.000-0.001	0.05-0.50 0.20-0.22 0.20-0.22 ---	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	85-95 1.0-5.0 0.0-1.0 ---	--- .37 .43 ---	--- .37 .43 ---	2	2	134
31BR01: 31-Brigadier -----	0-6 6-11 11-16 16-20 20-72	0.05-0.10 1.10-1.20 1.10-1.20 1.40-1.50 ---	6-20 0.6-2 0.6-2 2-6 0.1-6	0.05-0.35 0.20-0.22 0.20-0.22 0.05-0.10 ---	--- 0.0-2.9 0.0-2.9 0.0-2.9 ---	85-95 3.0-10 1.0-5.0 0.0-1.0 ---	--- .37 .43 .15 ---	--- .37 .43 .28 ---	1	2	134
31-Ester -----	0-9 9-12 12-21 21-72	0.05-0.10 1.10-1.20 --- ---	6-20 0.6-2 0.000-0.001 0.000-0.001	0.05-0.35 0.23-0.25 --- ---	--- 0.0-2.9 --- ---	85-95 7.0-12 1.0-5.0 ---	--- .37 --- ---	--- .37 --- ---	1	8	0
31BR02: 31-Brigadier -----	0-6 6-11 11-16 16-20 20-72	0.05-0.10 1.10-1.20 1.10-1.20 1.40-1.50 ---	6-20 0.6-2 0.6-2 2-6 0.1-6	0.05-0.35 0.20-0.22 0.20-0.22 0.05-0.10 ---	--- 0.0-2.9 0.0-2.9 0.0-2.9 ---	85-95 3.0-10 1.0-5.0 0.0-1.0 ---	--- .37 .43 .15 ---	--- .37 .43 .28 ---	1	2	134
31-Ester -----	0-9 9-12 12-21 21-72	0.05-0.10 1.10-1.20 --- ---	6-20 0.6-2 0.000-0.001 0.000-0.001	0.05-0.35 0.23-0.25 --- ---	--- 0.0-2.9 --- ---	85-95 7.0-12 1.0-5.0 ---	--- .37 --- ---	--- .37 --- ---	1	8	0
31BR08: 31-Brigadier -----	0-6 6-11 11-16 16-20 20-72	0.05-0.10 1.10-1.20 1.10-1.20 1.40-1.50 ---	6-20 0.6-2 0.6-2 2-6 0.1-6	0.05-0.35 0.20-0.22 0.20-0.22 0.05-0.10 ---	--- 0.0-2.9 0.0-2.9 0.0-2.9 ---	85-95 3.0-10 1.0-5.0 0.0-1.0 ---	--- .37 .43 .15 ---	--- .37 .43 .28 ---	1	2	134
31-Manchu -----	0-7 7-9 9-28 28-39 39-72	0.05-0.10 1.10-1.20 1.10-1.20 1.40-1.50 ---	6-20 0.6-2 0.6-2 2-6 0.1-6	0.05-0.35 0.20-0.22 0.20-0.22 0.05-0.10 ---	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 ---	85-95 2.0-10 1.0-5.0 0.0-1.0 ---	--- .37 .43 .15 ---	--- .37 .43 .43 ---	2	2	134
31BR09: 31-Brigadier -----	0-6 6-11 11-16 16-20 20-72	0.05-0.10 1.10-1.20 1.10-1.20 1.40-1.50 ---	6-20 0.6-2 0.6-2 2-6 0.1-6	0.05-0.35 0.20-0.22 0.20-0.22 0.05-0.10 ---	--- 0.0-2.9 0.0-2.9 0.0-2.9 ---	85-95 3.0-10 1.0-5.0 0.0-1.0 ---	--- .37 .43 .15 ---	--- .37 .43 .28 ---	1	2	134

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
31BR09: 31-Manchu -----	0-7 7-9 9-28 28-39 39-72	0.05-0.10 1.10-1.20 1.10-1.20 1.40-1.50 ---	6-20 0.6-2 0.6-2 2-6 0.1-6	0.05-0.35 0.20-0.22 0.20-0.22 0.05-0.10 ---	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 ---	85-95 2.0-10 1.0-5.0 0.0-1.0 ---	--- .37 .43 .15 ---	--- .37 .43 .43 ---	2 2 2 2 ---	2 2 2 2 ---	134 134 134 134 ---
31CH04: 31-Chatanika -----	0-4 4-6 6-21 21-72	0.05-0.10 1.00-1.30 1.00-1.30 ---	6-20 0.6-2 0.6-2 0.000-0.01	0.05-0.35 0.21-0.23 0.21-0.23 ---	--- 0.0-2.9 0.0-2.9 ---	85-95 7.0-12 1.0-5.0 1.0-5.0	--- .37 .43 ---	--- .37 .43 ---	2 2 2 ---	2 2 2 ---	134 134 134 ---
31-Goldstream -----	0-9 9-12 12-20 20-72	0.05-0.10 1.00-1.20 1.00-1.20 ---	6-20 0.6-2 0.6-2 0.000-0.001	0.05-0.35 0.20-0.22 0.20-0.22 ---	--- 0.0-2.9 0.0-2.9 ---	85-95 4.0-12 2.0-5.0 ---	--- .37 .43 ---	--- .37 .43 ---	1 1 1 ---	8 8 8 ---	0 0 0 ---
31ES01: 31-Ester -----	0-9 9-12 12-21 21-72	0.05-0.10 1.10-1.20 --- ---	6-20 0.6-2 0.000-0.001 0.000-0.001	0.05-0.35 0.23-0.25 --- ---	--- 0.0-2.9 --- ---	85-95 7.0-12 1.0-5.0 ---	--- .37 --- ---	--- .37 --- ---	1 1 1 ---	8 8 8 ---	0 0 0 ---
31FA02: 31-Fairbanks -----	0-3 3-30 30-72	0.05-0.10 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2	0.05-0.35 0.20-0.22 0.20-0.22	--- 0.0-2.9 0.0-2.9	85-95 2.0-6.0 1.0-5.0	--- .37 .43	--- .37 .43	5 5 5	2 2 2	134 134 134
31FA03: 31-Fairbanks -----	0-3 3-30 30-72	0.05-0.10 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2	0.05-0.35 0.20-0.22 0.20-0.22	--- 0.0-2.9 0.0-2.9	85-95 2.0-6.0 1.0-5.0	--- .37 .43	--- .37 .43	5 5 5	2 2 2	134 134 134
31FA04: 31-Fairbanks -----	0-3 3-30 30-72	0.05-0.10 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2	0.05-0.35 0.20-0.22 0.20-0.22	--- 0.0-2.9 0.0-2.9	85-95 2.0-6.0 1.0-5.0	--- .37 .43	--- .37 .43	5 5 5	2 2 2	134 134 134
31FA05: 31-Fairbanks -----	0-3 3-30 30-72	0.05-0.10 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2	0.05-0.35 0.20-0.22 0.20-0.22	--- 0.0-2.9 0.0-2.9	85-95 2.0-6.0 1.0-5.0	--- .37 .43	--- .37 .43	5 5 5	2 2 2	134 134 134
31FA07: 31-Fairbanks, gullied -----	0-3 3-30 30-72	0.05-0.10 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2	0.05-0.35 0.20-0.22 0.20-0.22	--- 0.0-2.9 0.0-2.9	85-95 2.0-6.0 1.0-5.0	--- .37 .43	--- .37 .43	5 5 5	2 2 2	134 134 134
31-Fairbanks, gullied, steep -----	0-3 3-30 30-72	0.05-0.10 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2	0.05-0.35 0.20-0.22 0.20-0.22	--- 0.0-2.9 0.0-2.9	85-95 2.0-6.0 1.0-5.0	--- .37 .43	--- .37 .43	5 5 5	2 2 2	134 134 134

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
31FA11: 31-Fairbanks-----	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	5	2	134
	3-30	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	30-72	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
31-Steese-----	0-2	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	2-5	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	5-27	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	27-33	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.15	.43			
	33-72	---	0.1-6	---	---	---	---	---			
31GD01: 31-Goldstream-----	0-9	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	1	8	0
	9-12	1.00-1.20	0.6-2	0.20-0.22	0.0-2.9	4.0-12	.37	.37			
	12-20	1.00-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-5.0	.43	.43			
	20-72	---	0.000-0.001	---	---	---	---	---			
31GD02: 31-Goldstream-----	0-9	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	1	8	0
	9-12	1.00-1.20	0.6-2	0.20-0.22	0.0-2.9	4.0-12	.37	.37			
	12-20	1.00-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-5.0	.43	.43			
	20-72	---	0.000-0.001	---	---	---	---	---			
31GD03: 31-Goldstream-----	0-9	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	1	8	0
	9-12	1.00-1.20	0.6-2	0.20-0.22	0.0-2.9	4.0-12	.37	.37			
	12-20	1.00-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-5.0	.43	.43			
	20-72	---	0.000-0.001	---	---	---	---	---			
31-Histels-----	0-19	0.05-0.30	0.03-20	0.05-0.55	---	60-95	---	---	1	8	0
	19-25	1.06-1.21	0.000-0.7	0.20-0.23	0.0-2.9	3.0-6.0	.43	.43			
	25-35	---	0.000-0.001	---	---	3.0-6.0	---	---			
	35-72	---	0.000-0.001	---	---	3.0-6.0	---	---			
31GL02: 31-Gilmore-----	0-3	0.05-0.10	6-20	0.05-0.35	0.0-2.9	85-95	---	---	1	2	134
	3-6	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-8.0	.37	.37			
	6-12	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	12-19	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.10	.43			
	19-72	---	0.1-6	---	---	---	---	---			
31GL03: 31-Gilmore-----	0-3	0.05-0.10	6-20	0.05-0.35	0.0-2.9	85-95	---	---	1	2	134
	3-6	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-8.0	.37	.37			
	6-12	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	12-19	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.10	.43			
	19-72	---	0.1-6	---	---	---	---	---			
31GL04: 31-Gilmore-----	0-3	0.05-0.10	6-20	0.05-0.35	0.0-2.9	85-95	---	---	1	2	134
	3-6	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-8.0	.37	.37			
	6-12	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	12-19	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.10	.43			
	19-72	---	0.1-6	---	---	---	---	---			



Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
31GL05: 31-Gilmore -----	0-3	0.05-0.10	6-20	0.05-0.35	0.0-2.9	85-95	---	---	1	2	134
	3-6	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-8.0	.37	.37			
	6-12	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	12-19	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.10	.43			
	19-72	---	0.1-6	---	---	---	---	---			
31GL06: 31-Gilmore -----	0-3	0.05-0.10	6-20	0.05-0.35	0.0-2.9	85-95	---	---	1	2	134
	3-6	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-8.0	.37	.37			
	6-12	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	12-19	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.10	.43			
	19-72	---	0.1-6	---	---	---	---	---			
31HA01: 31-Happy -----	0-2	0.10-0.40	0.6-2	0.20-0.31	---	75-90	---	---	2	2	134
	2-5	0.80-1.15	0.6-2	0.20-0.31	0.1-0.7	5.0-18	.37	.37			
	5-20	1.20-1.40	0.6-2	0.20-0.31	0.1-1.0	1.0-4.0	.43	.43			
	20-32	0.80-1.15	0.6-2	0.20-0.31	0.1-0.7	5.0-18	.37	.37			
	32-72	---	0.000-0.001	---	---	---	---	---			
31MC01: 31-McCloud -----	0-3	0.05-0.18	2-20	0.05-0.50	0.0-2.9	85-95	---	---	2	2	134
	3-20	1.10-1.30	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.37	.37			
	20-29	1.10-1.30	0.6-2	0.20-0.22	0.0-2.9	0.0-1.0	.43	.43			
	29-72	---	0.000-0.001	---	0.0-2.9	---	---	---			
31MC02: 31-McCloud -----	0-3	0.05-0.18	2-20	0.05-0.50	0.0-2.9	85-95	---	---	2	2	134
	3-20	1.10-1.30	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.37	.37			
	20-29	1.10-1.30	0.6-2	0.20-0.22	0.0-2.9	0.0-1.0	.43	.43			
	29-72	---	0.000-0.001	---	0.0-2.9	---	---	---			
31MC03: 31-McCloud -----	0-3	0.05-0.18	2-20	0.05-0.50	0.0-2.9	85-95	---	---	2	2	134
	3-20	1.10-1.30	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.37	.37			
	20-29	1.10-1.30	0.6-2	0.20-0.22	0.0-2.9	0.0-1.0	.43	.43			
	29-72	---	0.000-0.001	---	0.0-2.9	---	---	---			
31-Fairbanks-----	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	5	2	134
	3-30	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	30-72	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
31MN01: 31-Minto-----	0-5	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	5	2	134
	5-9	1.10-1.20	0.6-2	0.20-0.24	0.0-2.9	2.0-8.0	.37	.37			
	9-16	1.10-1.20	0.6-2	0.21-0.23	0.0-2.9	1.0-5.0	.43	.43			
	16-72	1.10-1.20	0.6-2	0.21-0.23	0.0-2.9	1.0-5.0	.43	.43			
31MN02: 31-Minto-----	0-5	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	5	2	134
	5-9	1.10-1.20	0.6-2	0.20-0.24	0.0-2.9	2.0-8.0	.37	.37			
	9-16	1.10-1.20	0.6-2	0.21-0.23	0.0-2.9	1.0-5.0	.43	.43			
	16-72	1.10-1.20	0.6-2	0.21-0.23	0.0-2.9	1.0-5.0	.43	.43			

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
31MN03: 31-Minto-----	0-5 5-9 9-16 16-72	0.05-0.10 1.10-1.20 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2 0.6-2	0.05-0.35 0.20-0.24 0.21-0.23 0.21-0.23	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 2.0-8.0 1.0-5.0 1.0-5.0	--- .37 .43 .43	--- .37 .43 .43	5	2	134
31MN04: 31-Minto-----	0-5 5-9 9-16 16-72	0.05-0.10 1.10-1.20 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2 0.6-2	0.05-0.35 0.20-0.24 0.21-0.23 0.21-0.23	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 2.0-8.0 1.0-5.0 1.0-5.0	--- .37 .43 .43	--- .37 .43 .43	5	2	134
31MN05: 31-Minto-----	0-5 5-9 9-16 16-72	0.05-0.10 1.10-1.20 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2 0.6-2	0.05-0.35 0.20-0.24 0.21-0.23 0.21-0.23	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 2.0-8.0 1.0-5.0 1.0-5.0	--- .37 .43 .43	--- .37 .43 .43	5	2	134
31-Chatanika -----	0-4 4-6 6-21 21-72	0.05-0.10 1.00-1.30 1.00-1.30 ---	6-20 0.6-2 0.6-2 0.000-0.01	0.05-0.35 0.21-0.23 0.21-0.23 ---	--- 0.0-2.9 0.0-2.9 ---	85-95 7.0-12 1.0-5.0 1.0-5.0	--- .37 .43 ---	--- .37 .43 ---	2	8	0
31MN06: 31-Minto-----	0-5 5-9 9-16 16-72	0.05-0.10 1.10-1.20 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2 0.6-2	0.05-0.35 0.20-0.24 0.21-0.23 0.21-0.23	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 2.0-8.0 1.0-5.0 1.0-5.0	--- .37 .43 .43	--- .37 .43 .43	5	2	134
31-Chatanika -----	0-4 4-6 6-21 21-72	0.05-0.10 1.00-1.30 1.00-1.30 ---	6-20 0.6-2 0.6-2 0.000-0.01	0.05-0.35 0.21-0.23 0.21-0.23 ---	--- 0.0-2.9 0.0-2.9 ---	85-95 7.0-12 1.0-5.0 1.0-5.0	--- .37 .43 ---	--- .37 .43 ---	2	8	0
31MN07: 31-Minto-----	0-5 5-9 9-16 16-72	0.05-0.10 1.10-1.20 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2 0.6-2	0.05-0.35 0.20-0.24 0.21-0.23 0.21-0.23	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 2.0-8.0 1.0-5.0 1.0-5.0	--- .37 .43 .43	--- .37 .43 .43	5	2	134
31-Chatanika -----	0-4 4-6 6-21 21-72	0.05-0.10 1.00-1.30 1.00-1.30 ---	6-20 0.6-2 0.6-2 0.000-0.01	0.05-0.35 0.21-0.23 0.21-0.23 ---	--- 0.0-2.9 0.0-2.9 ---	85-95 7.0-12 1.0-5.0 1.0-5.0	--- .37 .43 ---	--- .37 .43 ---	2	8	0
31RS01: 31-Rosie -----	0-12 12-22 22-28 28-72	1.10-1.20 1.10-1.20 1.40-1.50 ---	0.6-2 0.6-2 2-6 2-6	0.20-0.22 0.20-0.22 0.05-0.10 ---	0.0-1.5 0.0-1.5 0.0-1.5 ---	2.0-8.0 1.0-5.0 0.0-1.0 ---	.32 .20 .10 ---	.37 .43 .43 ---	2	2	134

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
31SA06: 31-Saulich -----	0-16 16-21 21-72	0.05-0.10 1.10-1.20 ---	6-20 0.6-2 0.000-0.001	0.05-0.35 0.23-0.25 ---	--- 0.0-2.9 ---	85-95 2.0-13 ---	--- .37 ---	--- .37 ---	2	8	0
31-Minto-----	0-5 5-9 9-16 16-72	0.05-0.10 1.10-1.20 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2 0.6-2	0.05-0.35 0.20-0.24 0.21-0.23 0.21-0.23	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 2.0-8.0 1.0-5.0 1.0-5.0	--- .37 .43 .43	--- .37 .43 .43	5	2	134
31SA08: 31-Saulich -----	0-16 16-21 21-72	0.05-0.10 1.10-1.20 ---	6-20 0.6-2 0.000-0.001	0.05-0.35 0.23-0.25 ---	--- 0.0-2.9 ---	85-95 2.0-13 ---	--- .37 ---	--- .37 ---	2	8	0
31-Chatanika -----	0-4 4-6 6-21 21-72	0.05-0.10 1.00-1.30 1.00-1.30 ---	6-20 0.6-2 0.6-2 0.000-0.01	0.05-0.35 0.21-0.23 0.21-0.23 ---	--- 0.0-2.9 0.0-2.9 ---	85-95 7.0-12 1.0-5.0 1.0-5.0	--- .37 .43 ---	--- .37 .43 ---	2	8	0
31-Minto-----	0-5 5-9 9-16 16-72	0.05-0.10 1.10-1.20 1.10-1.20 1.10-1.20	6-20 0.6-2 0.6-2 0.6-2	0.05-0.35 0.20-0.24 0.21-0.23 0.21-0.23	--- 0.0-2.9 0.0-2.9 0.0-2.9	85-95 2.0-8.0 1.0-5.0 1.0-5.0	--- .37 .43 .43	--- .37 .43 .43	5	2	134
31SR02: 31-Strelina -----	0-8 8-14 14-22 22-24 24-72	0.05-0.18 1.00-1.20 1.00-1.20 --- ---	0.6-20 0.09-0.4 0.09-0.4 0.000-0.001 0.000-0.001	0.05-0.50 0.20-0.24 0.20-0.24 --- ---	--- 0.0-2.9 0.0-2.9 --- ---	75-95 2.0-11 2.0-8.0 2.0-8.0 2.0-8.0	--- .37 .43 --- ---	--- .37 .43 --- ---	1	2	134
31SR03: 31-Strelina -----	0-8 8-14 14-22 22-24 24-72	0.05-0.18 1.00-1.20 1.00-1.20 --- ---	0.6-20 0.09-0.4 0.09-0.4 0.000-0.001 0.000-0.001	0.05-0.50 0.20-0.24 0.20-0.24 --- ---	--- 0.0-2.9 0.0-2.9 --- ---	75-95 2.0-11 2.0-8.0 2.0-8.0 2.0-8.0	--- .37 .43 --- ---	--- .37 .43 --- ---	1	2	134
31SR04: 31-Strelina -----	0-8 8-14 14-22 22-24 24-72	0.05-0.18 1.00-1.20 1.00-1.20 --- ---	0.6-20 0.09-0.4 0.09-0.4 0.000-0.001 0.000-0.001	0.05-0.50 0.20-0.24 0.20-0.24 --- ---	--- 0.0-2.9 0.0-2.9 --- ---	75-95 2.0-11 2.0-8.0 2.0-8.0 2.0-8.0	--- .37 .43 --- ---	--- .37 .43 --- ---	1	2	134
31SR05: 31-Strelina -----	0-8 8-14 14-22 22-24 24-72	0.05-0.18 1.00-1.20 1.00-1.20 --- ---	0.6-20 0.09-0.4 0.09-0.4 0.000-0.001 0.000-0.001	0.05-0.50 0.20-0.24 0.20-0.24 --- ---	--- 0.0-2.9 0.0-2.9 --- ---	75-95 2.0-11 2.0-8.0 2.0-8.0 2.0-8.0	--- .37 .43 --- ---	--- .37 .43 --- ---	1	2	134
31-Toghotthele -----	0-1 1-4 4-51 51-72	0.05-0.10 1.10-1.20 1.10-1.20 1.40-1.80	6-20 0.6-2 0.6-2 6-20	0.05-0.35 0.20-0.22 0.20-0.22 0.05-0.22	--- 0.0-2.9 0.0-2.9 0.0-0.3	85-95 2.0-6.0 1.0-4.0 0.1-0.7	--- .37 .43 .17	--- .37 .43 .17	4	2	134

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
31ST01: 31-Steese-----	0-2	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	2-5	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	5-27	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	27-33	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.15	.43			
	33-72	---	0.1-6	---	---	---	---	---			
31ST02: 31-Steese-----	0-2	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	2-5	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	5-27	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	27-33	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.15	.43			
	33-72	---	0.1-6	---	---	---	---	---			
31ST03: 31-Steese-----	0-2	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	2-5	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	5-27	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	27-33	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.15	.43			
	33-72	---	0.1-6	---	---	---	---	---			
31ST04: 31-Steese-----	0-2	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	2-5	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	5-27	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	27-33	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.15	.43			
	33-72	---	0.1-6	---	---	---	---	---			
31ST05: 31-Steese-----	0-2	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	2-5	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	5-27	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	27-33	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.15	.43			
	33-72	---	0.1-6	---	---	---	---	---			
31ST06: 31-Steese-----	0-2	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	2-5	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	5-27	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	27-33	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.15	.43			
	33-72	---	0.1-6	---	---	---	---	---			
31ST08: 31-Steese-----	0-2	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	2-5	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	5-27	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	27-33	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.15	.43			
	33-72	---	0.1-6	---	---	---	---	---			
31-Gilmore -----	0-3	0.05-0.10	6-20	0.05-0.35	0.0-2.9	85-95	---	---	1	2	134
	3-6	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-8.0	.37	.37			
	6-12	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	12-19	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.10	.43			
	19-72	---	0.1-6	---	---	---	---	---			

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
31ST09: 31-Steese-----	0-2	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	2-5	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	5-27	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	27-33	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.15	.43			
	33-72	---	0.1-6	---	---	---	---	---			
31-Gilmore -----	0-3	0.05-0.10	6-20	0.05-0.35	0.0-2.9	85-95	---	---	1	2	134
	3-6	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-8.0	.37	.37			
	6-12	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	12-19	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.10	.43			
	19-72	---	0.1-6	---	---	---	---	---			
31ST10: 31-Steese-----	0-2	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	2-5	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	5-27	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	27-33	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.15	.43			
	33-72	---	0.1-6	---	---	---	---	---			
31-Gilmore -----	0-3	0.05-0.10	6-20	0.05-0.35	0.0-2.9	85-95	---	---	1	2	134
	3-6	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-8.0	.37	.37			
	6-12	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	12-19	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.10	.43			
	19-72	---	0.1-6	---	---	---	---	---			
31ST11: 31-Steese-----	0-2	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	2	2	134
	2-5	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	5-27	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	27-33	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.15	.43			
	33-72	---	0.1-6	---	---	---	---	---			
31-Gilmore -----	0-3	0.05-0.10	6-20	0.05-0.35	0.0-2.9	85-95	---	---	1	2	134
	3-6	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-8.0	.37	.37			
	6-12	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
	12-19	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-1.0	.10	.43			
	19-72	---	0.1-6	---	---	---	---	---			
31TG01: 31-Toghotthele-----	0-1	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	4	2	134
	1-4	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	4-51	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-4.0	.43	.43			
	51-72	1.40-1.80	6-20	0.05-0.22	0.0-0.3	0.1-0.7	.17	.17			
31TG02: 31-Toghotthele-----	0-1	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	4	2	134
	1-4	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	4-51	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-4.0	.43	.43			
	51-72	1.40-1.80	6-20	0.05-0.22	0.0-0.3	0.1-0.7	.17	.17			
31-Fairbanks-----	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	5	2	134
	3-30	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	30-72	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			

Table 6. Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In.	g/cc	In/Hr	In/In	Pct.	Pct.					
31TG03: 31-Toghotthele -----	0-1	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	4	2	134
	1-4	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	4-51	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-4.0	.43	.43			
	51-72	1.40-1.80	6-20	0.05-0.22	0.0-0.3	0.1-0.7	.17	.17			
31-Fairbanks-----	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	5	2	134
	3-30	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	30-72	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
31TG04: 31-Toghotthele -----	0-1	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	4	2	134
	1-4	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	4-51	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-4.0	.43	.43			
	51-72	1.40-1.80	6-20	0.05-0.22	0.0-0.3	0.1-0.7	.17	.17			
31-Fairbanks-----	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	5	2	134
	3-30	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	30-72	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
31TG05: 31-Toghotthele -----	0-1	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	4	2	134
	1-4	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	4-51	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-4.0	.43	.43			
	51-72	1.40-1.80	6-20	0.05-0.22	0.0-0.3	0.1-0.7	.17	.17			
31-Fairbanks-----	0-3	0.05-0.10	6-20	0.05-0.35	---	85-95	---	---	5	2	134
	3-30	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	2.0-6.0	.37	.37			
	30-72	1.10-1.20	0.6-2	0.20-0.22	0.0-2.9	1.0-5.0	.43	.43			
R29WAA: 29-Water-----	---	---	---	---	---	---	---	---	-	---	---
R31WAA: 29-Water-----	---	---	---	---	---	---	---	---	-	---	---

**Table 7. Chemical Properties of the Soils**

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
28BU01:					
28-Butchlake-----	0-3	---	15-50	3.5-6.0	0
	3-4	---	12-27	4.5-6.0	0
	4-9	4.0-13	---	5.6-6.5	0
	9-72	2.0-5.0	---	5.1-6.5	0
28-Southpaw-----	0-4	---	15-50	3.5-6.0	0
	4-13	5.0-15	---	5.2-6.5	0
	13-22	4.0-9.0	---	5.5-6.5	0
	22-36	1.0-3.0	---	6.0-7.3	0
	36-72	1.0-3.0	---	5.8-7.3	0
28-Salchaket family -----	0-1	20-90	---	5.0-6.8	0
	1-14	10-30	---	5.4-6.4	0
	14-15	50-100	---	5.4-6.4	0
	15-72	4.0-12	---	5.8-6.4	0
28SP01:					
28-Southpaw-----	0-4	---	15-50	3.5-6.0	0
	4-13	5.0-15	---	5.2-6.5	0
	13-22	4.0-9.0	---	5.5-6.5	0
	22-36	1.0-3.0	---	6.0-7.3	0
	36-72	1.0-3.0	---	5.8-7.3	0
28-Butchlake-----	0-3	---	15-50	3.5-6.0	0
	3-4	---	12-27	4.5-6.0	0
	4-9	4.0-13	---	5.6-6.5	0
	9-72	2.0-5.0	---	5.1-6.5	0
28SP02:					
28-Southpaw-----	0-4	---	15-50	3.5-6.0	0
	4-13	5.0-15	---	5.2-6.5	0
	13-22	4.0-9.0	---	5.5-6.5	0
	22-36	1.0-3.0	---	6.0-7.3	0
	36-72	1.0-3.0	---	5.8-7.3	0
28-Butchlake-----	0-3	---	15-50	3.5-6.0	0
	3-4	---	12-27	4.5-6.0	0
	4-9	4.0-13	---	5.6-6.5	0
	9-72	2.0-5.0	---	5.1-6.5	0
28TE01:					
28-Terric Hemistels -----	0-20	120-210	---	5.1-6.5	0
	20-24	8.0-124	---	5.6-6.5	0
	24-72	10-20	---	6.1-7.3	0
28-Typic Aquiturbels-----	0-7	50-150	---	4.5-6.5	0
	7-15	4.0-18	---	6.1-7.3	0
	15-33	4.0-18	---	6.1-7.3	0
	33-41	4.0-18	---	6.1-7.3	0
	41-72	4.0-18	---	6.1-7.3	0
28-Water -----	---	---	---	---	---

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
29AE01:					
29-Aquic Haplocrypts -----	0-2	20-30	---	5.6-6.0	0
	2-18	10-20	---	5.6-7.3	0
	18-72	2.0-5.0	---	6.1-7.3	0
29-Typic Cryaquepts -----	0-5	10-25	---	6.6-7.3	0
	5-60	10-25	---	6.6-7.3	0
29CH01:					
29-Chena -----	0-4	115-155	---	5.1-6.0	0
	4-9	5.0-20	---	5.6-6.5	0
	9-72	1.0-5.0	---	5.6-6.5	0
29EL01:					
29-Eielson -----	0-2	115-155	---	5.1-7.1	0
	2-49	15-30	---	5.6-7.1	0-1
	49-71	1.0-5.0	---	6.1-7.6	0-1
	71-72	1.0-5.0	---	6.1-7.6	0-1
29-Piledriver, occasionally flooded -----	0-3	115-155	---	5.6-6.6	0
	3-15	15-30	---	5.1-6.5	0
	15-33	5.0-15	---	5.6-7.3	0-1
	33-72	1.0-5.0	---	5.6-7.3	0-1
29EL02:					
29-Eielson, rarely flooded -----	0-2	115-155	---	5.1-7.1	0
	2-49	15-30	---	5.6-7.1	0-1
	49-71	1.0-5.0	---	6.1-7.6	0-1
	71-72	1.0-5.0	---	6.1-7.6	0-1
29-Tanana -----	0-3	---	115-155	4.5-5.0	0
	3-6	15-30	---	5.1-6.0	0
	6-25	5.0-20	---	5.6-7.3	0-1
	25-72	---	---	6.6-7.3	0-1
29FU01:					
29-Fubar, occasionally flooded -----	0-2	115-155	---	5.1-6.1	0
	2-10	5.0-10	---	5.6-6.5	0
	10-72	1.0-5.0	---	5.6-7.3	0-1
29-Piledriver, occasionally flooded -----	0-3	115-155	---	5.6-6.6	0
	3-15	15-30	---	5.1-6.5	0
	15-33	5.0-15	---	5.6-7.3	0-1
	33-72	1.0-5.0	---	5.6-7.3	0-1
29GE01:					
29-Gerstle -----	0-4	115-155	---	4.6-7.0	0
	4-10	14-33	---	4.8-6.8	0
	10-20	9.0-27	---	5.6-6.8	0
	20-30	6.0-20	---	5.7-6.8	0
	30-51	4.0-16	---	5.8-7.4	0
	51-72	3.0-11	---	5.8-7.4	0
29-Moosehead -----	0-5	43-103	---	3.5-6.0	0
	5-7	20-40	---	5.6-6.5	0
	7-20	8.0-20	---	5.6-6.4	0
	20-26	6.0-22	---	5.6-7.3	0
	26-72	2.0-8.0	---	5.6-7.3	0



Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
29GE02:					
29-Gerstle -----	0-4	115-155	---	4.6-7.0	0
	4-10	14-33	---	4.8-6.8	0
	10-20	9.0-27	---	5.6-6.8	0
	20-30	6.0-20	---	5.7-6.8	0
	30-51	4.0-16	---	5.8-7.4	0
	51-72	3.0-11	---	5.8-7.4	0
29-Tanana-----	0-3	---	115-155	4.5-5.0	0
	3-6	15-30	---	5.1-6.0	0
	6-25	5.0-20	---	5.6-7.3	0-1
	25-72	---	---	6.6-7.3	0-1
29GE04:					
29-Gerstle family-----	0-3	---	18-50	5.1-5.5	0
	3-7	---	2.0-17	5.1-5.6	0
	7-20	5.0-18	---	5.4-5.9	0
	20-57	5.0-18	---	5.4-6.5	0
	57-72	3.0-9.0	---	5.5-6.5	0
29-Tanacross family -----	0-7	---	15-50	3.5-5.2	0
	7-13	---	20-52	4.6-5.2	0
	13-19	9.0-28	---	5.6-5.7	0
	19-24	---	1.0-9.0	5.0-5.7	0
	24-52	---	---	5.0-6.1	0
	52-72	---	---	5.0-6.1	---
29JV01:					
29-Jarvis -----	0-3	115-155	---	5.6-6.6	0
	3-6	15-30	---	5.1-6.5	0
	6-24	1.0-5.0	---	5.6-7.3	0
	24-72	1.0-5.0	---	5.6-7.3	0
29JV02:					
29-Jarvis, occasionally flooded -----	0-3	115-155	---	5.6-6.6	0
	3-6	15-30	---	5.1-6.5	0
	6-24	1.0-5.0	---	5.6-7.3	0
	24-72	1.0-5.0	---	5.6-7.3	0
29JV04:					
29-Jarvis -----	0-3	115-155	---	5.6-6.6	0
	3-6	15-30	---	5.1-6.5	0
	6-24	1.0-5.0	---	5.6-7.3	0
	24-72	1.0-5.0	---	5.6-7.3	0
29-Salchaket-----	0-3	---	115-155	4.5-5.6	0
	3-24	15-30	---	5.1-6.0	0
	24-45	5.0-15	---	5.6-7.3	0-1
	45-72	1.0-5.0	---	6.1-7.3	0-1

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
29JV05:					
29-Jarvis, occasionally flooded -----	0-3	115-155	---	5.6-6.6	0
	3-6	15-30	---	5.1-6.5	0
	6-24	1.0-5.0	---	5.6-7.3	0
	24-72	1.0-5.0	---	5.6-7.3	0
29-Salchaket, occasionally flooded -----	0-3	---	115-155	4.5-5.6	0
	3-24	15-30	---	5.1-6.0	0
	24-45	5.0-15	---	5.6-7.3	0-1
	45-72	1.0-5.0	---	6.1-7.3	0-1
29KU01:					
29-Koyukuk -----	0-6	---	16-50	4.6-4.8	0
	6-34	15-35	---	5.6-6.1	0
	34-72	5.0-20	---	6.2-6.3	0
29-Audrey family -----	0-8	---	2.0-20	4.4-6.2	0
	8-13	10-30	---	5.0-6.2	0
	13-26	5.0-19	---	5.6-6.2	0
	26-72	5.0-19	---	5.8-6.8	0
29KZ01:					
29-lksgiza -----	0-5	40-110	---	5.6-6.2	0
	5-8	39-80	---	6.2-6.6	0
	8-12	12-31	---	5.4-6.6	0
	12-21	10-29	---	5.8-6.6	0
	21-24	---	---	6.2-6.4	0
	24-72	---	---	6.0-6.6	0
29-Histels -----	0-18	35-100	---	5.8-6.8	0
	18-25	9.0-28	---	6.2-6.8	0
	25-35	---	---	6.2-6.6	0
	35-72	---	---	6.2-6.6	0
29KZ02:					
29-lksgiza -----	0-5	40-110	---	5.6-6.2	0
	5-8	39-80	---	6.2-6.6	0
	8-12	12-31	---	5.4-6.6	0
	12-21	10-29	---	5.8-6.6	0
	21-24	---	---	6.2-6.4	0
	24-72	---	---	6.0-6.6	0
29-Lupine family -----	0-1	45-90	---	5.4-6.0	0
	1-7	14-34	---	5.8-6.6	0
	7-18	10-29	---	5.6-6.7	0
	18-25	4.0-16	---	6.0-6.8	0
	25-72	3.0-9.0	---	5.9-6.8	0
29LS03:					
29-Liscum -----	0-3	115-155	---	6.1-7.3	0
	3-11	120-240	---	6.1-7.3	0-1
	11-15	20-30	---	6.1-7.3	0-1
	15-70	5.0-25	---	6.1-7.3	0-1
	70-72	5.0-10	---	6.1-7.3	0-1
29-Terric Cryohemists -----	0-3	---	13-50	4.0-6.3	0
	3-12	---	13-50	5.1-6.5	0
	12-22	115-155	---	5.6-7.0	0
	22-72	2.5-17	---	6.1-7.2	0

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
29LU01: 29-Lupine -----	0-3	40-110	---	4.8-5.7	0
	3-6	15-34	---	5.4-6.6	0
	6-16	10-29	---	5.6-6.4	0
	16-20	8.0-25	---	5.8-6.4	0
	20-72	3.0-10	---	5.9-6.6	0
29LU02: 29-Lupine family -----	0-1	45-90	---	5.4-6.0	0
	1-7	14-34	---	5.8-6.6	0
	7-18	10-29	---	5.6-6.7	0
	18-25	4.0-16	---	6.0-6.8	0
	25-72	3.0-9.0	---	5.9-6.8	0
29-Beales -----	0-4	---	115-165	4.4-6.2	0
	4-8	15-35	---	5.4-5.8	0
	8-12	10-30	---	5.8-6.4	0
	12-20	3.0-11	---	5.8-6.4	0
	20-72	3.0-9.0	---	6.0-6.5	0
29LU03: 29-Lupine family -----	0-1	45-90	---	5.4-6.0	0
	1-7	14-34	---	5.8-6.6	0
	7-18	10-29	---	5.6-6.7	0
	18-25	4.0-16	---	6.0-6.8	0
	25-72	3.0-9.0	---	5.9-6.8	0
29-Beales -----	0-4	---	115-165	4.4-6.2	0
	4-8	15-35	---	5.4-5.8	0
	8-12	10-30	---	5.8-6.4	0
	12-20	3.0-11	---	5.8-6.4	0
	20-72	3.0-9.0	---	6.0-6.5	0
29LU04: 29-Lupine family -----	0-1	45-90	---	5.4-6.0	0
	1-7	14-34	---	5.8-6.6	0
	7-18	10-29	---	5.6-6.7	0
	18-25	4.0-16	---	6.0-6.8	0
	25-72	3.0-9.0	---	5.9-6.8	0
29-Bohica -----	0-4	39-98	---	4.4-6.4	0
	4-11	14-34	---	5.4-6.8	0
	11-27	10-29	---	5.8-7.2	0
	27-42	8.0-25	---	6.0-7.2	0
	42-72	5.0-20	---	6.6-7.1	0
29-Iksgiza -----	0-5	40-110	---	5.6-6.2	0
	5-8	39-80	---	6.2-6.6	0
	8-12	12-31	---	5.4-6.6	0
	12-21	10-29	---	5.8-6.6	0
	21-24	---	---	6.2-6.4	0
	24-72	---	---	6.0-6.6	0

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
29LU05:					
29-Lupine -----	0-3	40-110	---	4.8-5.7	0
	3-6	15-34	---	5.4-6.6	0
	6-16	10-29	---	5.6-6.4	0
	16-20	8.0-25	---	5.8-6.4	0
	20-72	3.0-10	---	5.9-6.6	0
29-Jarvis -----	0-3	115-155	---	5.6-6.6	0
	3-6	15-30	---	5.1-6.5	0
	6-24	1.0-5.0	---	5.6-7.3	0
	24-72	1.0-5.0	---	5.6-7.3	0
29MH01:					
29-Moosehead family-----	0-3	45-120	---	4.2-6.6	0
	3-6	10-30	---	5.3-6.2	0
	6-7	45-120	---	4.2-6.6	0
	7-14	10-30	---	5.3-6.2	0
	14-26	10-25	---	5.6-7.0	0
	26-72	3.0-10	---	6.0-7.0	0
29-Nenana -----	0-3	38-89	---	5.0-6.8	0
	3-6	15-34	---	5.5-6.6	0
	6-13	10-30	---	5.5-6.6	0
	13-20	7.0-22	---	5.5-6.6	0
	20-72	3.0-11	---	5.5-6.6	0
29NE01:					
29-Nenana -----	0-3	38-89	---	5.0-6.8	0
	3-6	15-34	---	5.5-6.6	0
	6-13	10-30	---	5.5-6.6	0
	13-20	7.0-22	---	5.5-6.6	0
	20-72	3.0-11	---	5.5-6.6	0
29NE03:					
29-Nenana -----	0-3	38-89	---	5.0-6.8	0
	3-6	15-34	---	5.5-6.6	0
	6-13	10-30	---	5.5-6.6	0
	13-20	7.0-22	---	5.5-6.6	0
	20-72	3.0-11	---	5.5-6.6	0
29-Donnelly -----	0-2	---	15-50	3.5-5.4	0
	2-6	4.0-11	---	5.1-6.0	0
	6-12	2.0-5.0	---	5.6-6.0	0
	12-72	0.0-3.0	---	6.1-7.3	0
29PL01:					
29-Eielson, rarely flooded -----	0-2	115-155	---	5.1-7.1	0
	2-49	15-30	---	5.6-7.1	0-1
	49-71	1.0-5.0	---	6.1-7.6	0-1
	71-72	1.0-5.0	---	6.1-7.6	0-1
29-Piledriver -----	0-3	115-155	---	5.6-6.6	0
	3-15	15-30	---	5.1-6.5	0
	15-33	5.0-15	---	5.6-7.3	0-1
	33-72	1.0-5.0	---	5.6-7.3	0-1
29PT01:					
29-Pits, gravel- -----	---	---	---	---	---

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
29PT02: 29-Pits, quarry-----	---	---	---	---	---
29RC01: 29-Richardson-----	0-1 1-20 20-59 59-72	--- 15-30 1.0-5.0 1.0-5.0	15-50 --- --- ---	3.5-5.5 5.1-6.6 5.4-6.7 6.0-7.3	0 0 0 0
29-Salchaket, occasionally flooded-----	0-3 3-24 24-45 45-72	--- 15-30 5.0-15 1.0-5.0	115-155 --- --- ---	4.5-5.6 5.1-6.0 5.6-7.3 6.1-7.3	0 0 0-1 0-1
29SA01: 29-Sawmill Creek-----	0-4 4-5 5-12 12-14 14-72	40-110 13-32 10-30 5.0-20 4.0-13	--- --- --- --- ---	5.2-5.6 5.9-6.5 6.1-6.8 7.5-7.5 6.5-8.0	0 0 0 0 0-10
29SC01: 29-Salchaket family-----	0-4 4-8 8-72	--- 10-30 4.0-12	15-50 --- ---	5.0-5.6 5.5-5.9 5.5-6.1	0 0 0
29-Hogan family-----	0-6 6-8 8-24 24-47 47-72	--- 47-103 10-30 5.0-15 ---	15-50 --- --- --- ---	4.6-5.6 5.2-5.8 5.6-6.2 5.7-6.1 5.7-6.1	0 0 0 0 ---
29SC02: 29-Salchaket-----	0-3 3-24 24-45 45-72	--- 15-30 5.0-15 1.0-5.0	115-155 --- --- ---	4.5-5.6 5.1-6.0 5.6-7.3 6.1-7.3	0 0 0-1 0-1
29SC03: 29-Salchaket, occasionally flooded-----	0-3 3-24 24-45 45-72	--- 15-30 5.0-15 1.0-5.0	115-155 --- --- ---	4.5-5.6 5.1-6.0 5.6-7.3 6.1-7.3	0 0 0-1 0-1
29TC01: 29-Tanacross-----	0-9 9-11 11-17 17-48 48-72	--- 20-40 5.0-20 --- ---	30-80 --- --- --- ---	3.5-6.4 5.1-6.0 5.1-6.6 5.6-6.6 5.6-6.6	0 0 0 0 ---
29TC02: 29-Tanacross family-----	0-7 7-13 13-19 19-24 24-52 52-72	--- --- 9.0-28 --- --- ---	15-50 20-52 --- 1.0-9.0 --- ---	3.5-5.2 4.6-5.2 5.6-5.7 5.0-5.7 5.0-6.1 5.0-6.1	0 0 0 0 0 ---

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
29TC02:					
29-Moosehead -----	0-5	43-103	---	3.5-6.0	0
	5-7	20-40	---	5.6-6.5	0
	7-20	8.0-20	---	5.6-6.4	0
	20-26	6.0-22	---	5.6-7.3	0
	26-72	2.0-8.0	---	5.6-7.3	0
29TC03:					
29-Tanacross, occasionally flooded -----	0-9	---	30-80	3.5-6.4	0
	9-11	20-40	---	5.1-6.0	0
	11-17	5.0-20	---	5.1-6.6	0
	17-48	---	---	5.6-6.6	0
	48-72	---	---	5.6-6.6	---
29-Histels -----	0-18	35-100	---	5.8-6.8	0
	18-25	9.0-28	---	6.2-6.8	0
	25-35	---	---	6.2-6.6	0
	35-72	---	---	6.2-6.6	0
29TN01:					
29-Tanana -----	0-3	---	115-155	4.5-5.0	0
	3-6	15-30	---	5.1-6.0	0
	6-25	5.0-20	---	5.6-7.3	0-1
	25-72	---	---	6.6-7.3	0-1
29TS01:					
29-Terric Sapristels -----	0-19	35-100	---	5.8-6.8	0
	19-25	9.0-28	---	6.2-6.8	0
	25-72	---	---	6.2-6.6	0
29VM01:					
29-Volkmar -----	0-4	---	31-123	4.3-5.8	0
	4-8	14-34	---	4.8-6.8	0
	8-18	10-30	---	4.9-6.7	0
	18-30	8.0-26	---	5.8-6.7	0
	30-72	4.0-12	---	5.6-6.8	0
29WR01:					
29-Water -----	---	---	---	---	---
29-Riverwash -----	---	---	---	---	---
31AN02:					
31-Angel -----	0-2	---	115-155	4.1-5.0	0
	2-4	---	10-20	4.0-5.0	0
	4-8	15-30	---	5.4-6.0	0
	8-19	1.0-5.0	---	5.4-6.0	0
	19-72	---	---	---	---
31-McCloud -----	0-3	---	115-155	4.1-5.6	0
	3-20	15-30	---	5.4-6.0	0
	20-29	5.0-15	---	5.4-6.0	0
	29-72	---	---	5.4-6.2	---

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
31AN03:					
31-Angel -----	0-2	---	115-155	4.1-5.0	0
	2-4	---	10-20	4.0-5.0	0
	4-8	15-30	---	5.4-6.0	0
	8-19	1.0-5.0	---	5.4-6.0	0
	19-72	---	---	---	---
31-McCloud -----	0-3	---	115-155	4.1-5.6	0
	3-20	15-30	---	5.4-6.0	0
	20-29	5.0-15	---	5.4-6.0	0
	29-72	---	---	5.4-6.2	---
31BR01:					
31-Brigadier -----	0-6	---	115-155	3.8-4.6	0
	6-11	---	15-30	4.3-5.3	0
	11-16	1.0-5.0	---	5.2-5.7	0
	16-20	1.0-5.0	---	5.2-5.7	0
	20-72	---	---	---	---
31-Ester -----	0-9	---	115-155	3.6-4.5	0
	9-12	---	15-30	4.5-5.5	0
	12-21	---	10-25	4.6-5.8	0
	21-72	---	---	4.6-5.8	---
31BR02:					
31-Brigadier -----	0-6	---	115-155	3.8-4.6	0
	6-11	---	15-30	4.3-5.3	0
	11-16	1.0-5.0	---	5.2-5.7	0
	16-20	1.0-5.0	---	5.2-5.7	0
	20-72	---	---	---	---
31-Ester -----	0-9	---	115-155	3.6-4.5	0
	9-12	---	15-30	4.5-5.5	0
	12-21	---	10-25	4.6-5.8	0
	21-72	---	---	4.6-5.8	---
31BR08:					
31-Brigadier -----	0-6	---	115-155	3.8-4.6	0
	6-11	---	15-30	4.3-5.3	0
	11-16	1.0-5.0	---	5.2-5.7	0
	16-20	1.0-5.0	---	5.2-5.7	0
	20-72	---	---	---	---
31-Manchu -----	0-7	---	115-155	3.8-4.6	0
	7-9	---	15-30	4.3-5.4	0
	9-28	1.0-5.0	---	5.1-6.0	0
	28-39	1.0-5.0	---	5.6-6.5	0
	39-72	---	---	6.1-6.5	---
31BR09:					
31-Brigadier -----	0-6	---	115-155	3.8-4.6	0
	6-11	---	15-30	4.3-5.3	0
	11-16	1.0-5.0	---	5.2-5.7	0
	16-20	1.0-5.0	---	5.2-5.7	0
	20-72	---	---	---	---

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
31BR09:					
31-Manchu -----	0-7	---	115-155	3.8-4.6	0
	7-9	---	15-30	4.3-5.4	0
	9-28	1.0-5.0	---	5.1-6.0	0
	28-39	1.0-5.0	---	5.6-6.5	0
	39-72	---	---	6.1-6.5	---
31CH04:					
31-Chatanika -----	0-4	---	115-155	4.5-6.1	0
	4-6	---	15-30	4.5-5.5	0
	6-21	5.0-15	---	4.5-6.1	0
	21-72	---	---	4.5-6.1	0
31-Goldstream -----	0-9	---	70-120	3.6-4.5	0
	9-12	---	15-30	4.5-5.5	0
	12-20	---	5.0-15	4.5-5.5	0
	20-72	---	---	4.5-5.5	---
31ES01:					
31-Ester -----	0-9	---	115-155	3.6-4.5	0
	9-12	---	15-30	4.5-5.5	0
	12-21	---	10-25	4.6-5.8	0
	21-72	---	---	4.6-5.8	---
31FA02:					
31-Fairbanks -----	0-3	115-155	---	5.6-6.0	0
	3-30	15-30	---	5.6-6.0	0
	30-72	5.0-15	---	6.1-7.3	0-1
31FA03:					
31-Fairbanks -----	0-3	115-155	---	5.6-6.0	0
	3-30	15-30	---	5.6-6.0	0
	30-72	5.0-15	---	6.1-7.3	0-1
31FA04:					
31-Fairbanks -----	0-3	115-155	---	5.6-6.0	0
	3-30	15-30	---	5.6-6.0	0
	30-72	5.0-15	---	6.1-7.3	0-1
31FA05:					
31-Fairbanks -----	0-3	115-155	---	5.6-6.0	0
	3-30	15-30	---	5.6-6.0	0
	30-72	5.0-15	---	6.1-7.3	0-1
31FA07:					
31-Fairbanks, gullied -----	0-3	115-155	---	5.6-6.0	0
	3-30	15-30	---	5.6-6.0	0
	30-72	5.0-15	---	6.1-7.3	0-1
31-Fairbanks, gullied, steep -----	0-3	115-155	---	5.6-6.0	0
	3-30	15-30	---	5.6-6.0	0
	30-72	5.0-15	---	6.1-7.3	0-1
31FA11:					
31-Fairbanks -----	0-3	115-155	---	5.6-6.0	0
	3-30	15-30	---	5.6-6.0	0
	30-72	5.0-15	---	6.1-7.3	0-1



Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
31FA11:					
31-Steese-----	0-2	115-155	---	5.1-6.5	0
	2-5	---	15-30	5.1-6.0	0
	5-27	5.0-15	---	5.1-6.0	0
	27-33	5.0-10	---	6.1-6.5	0
	33-72	---	---	---	---
31GD01:					
31-Goldstream-----	0-9	---	70-120	3.6-4.5	0
	9-12	---	15-30	4.5-5.5	0
	12-20	---	5.0-15	4.5-5.5	0
	20-72	---	---	4.5-5.5	---
31GD02:					
31-Goldstream-----	0-9	---	70-120	3.6-4.5	0
	9-12	---	15-30	4.5-5.5	0
	12-20	---	5.0-15	4.5-5.5	0
	20-72	---	---	4.5-5.5	---
31GD03:					
31-Goldstream-----	0-9	---	70-120	3.6-4.5	0
	9-12	---	15-30	4.5-5.5	0
	12-20	---	5.0-15	4.5-5.5	0
	20-72	---	---	4.5-5.5	---
31-Histels-----	0-19	35-100	---	5.8-6.8	0
	19-25	9.0-28	---	6.2-6.8	0
	25-35	---	---	6.2-6.6	0
	35-72	---	---	6.2-6.6	0
31GL02:					
31-Gilmore-----	0-3	115-155	---	5.1-6.0	0
	3-6	15-30	---	5.6-6.0	0
	6-12	1.0-5.0	---	5.6-6.0	0
	12-19	1.0-5.0	---	6.1-6.5	0
	19-72	---	---	---	---
31GL03:					
31-Gilmore-----	0-3	115-155	---	5.1-6.0	0
	3-6	15-30	---	5.6-6.0	0
	6-12	1.0-5.0	---	5.6-6.0	0
	12-19	1.0-5.0	---	6.1-6.5	0
	19-72	---	---	---	---
31GL04:					
31-Gilmore-----	0-3	115-155	---	5.1-6.0	0
	3-6	15-30	---	5.6-6.0	0
	6-12	1.0-5.0	---	5.6-6.0	0
	12-19	1.0-5.0	---	6.1-6.5	0
	19-72	---	---	---	---
31GL05:					
31-Gilmore-----	0-3	115-155	---	5.1-6.0	0
	3-6	15-30	---	5.6-6.0	0
	6-12	1.0-5.0	---	5.6-6.0	0
	12-19	1.0-5.0	---	6.1-6.5	0
	19-72	---	---	---	---

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
31GL06: 31-Gilmore -----	0-3	115-155	---	5.1-6.0	0
	3-6	15-30	---	5.6-6.0	0
	6-12	1.0-5.0	---	5.6-6.0	0
	12-19	1.0-5.0	---	6.1-6.5	0
	19-72	---	---	---	---
31HA01: 31-Happy -----	0-2	50-151	---	5.4-6.0	0
	2-5	---	2.0-11	5.0-6.0	0
	5-20	3.0-11	---	5.8-6.5	0
	20-32	3.2-20	---	5.8-6.5	0
	32-72	---	---	5.8-6.5	---
31MC01: 31-McCloud -----	0-3	---	115-155	4.1-5.6	0
	3-20	15-30	---	5.4-6.0	0
	20-29	5.0-15	---	5.4-6.0	0
	29-72	---	---	5.4-6.2	---
31MC02: 31-McCloud -----	0-3	---	115-155	4.1-5.6	0
	3-20	15-30	---	5.4-6.0	0
	20-29	5.0-15	---	5.4-6.0	0
	29-72	---	---	5.4-6.2	---
31MC03: 31-McCloud -----	0-3	---	115-155	4.1-5.6	0
	3-20	15-30	---	5.4-6.0	0
	20-29	5.0-15	---	5.4-6.0	0
	29-72	---	---	5.4-6.2	---
31-Fairbanks-----	0-3	115-155	---	5.6-6.0	0
	3-30	15-30	---	5.6-6.0	0
	30-72	5.0-15	---	6.1-7.3	0-1
31MN01: 31-Minto-----	0-5	---	115-155	4.5-5.0	0
	5-9	15-30	---	5.6-6.5	0
	9-16	5.0-15	---	5.6-6.0	0
	16-72	5.0-15	---	6.1-6.5	0
31MN02: 31-Minto-----	0-5	---	115-155	4.5-5.0	0
	5-9	15-30	---	5.6-6.5	0
	9-16	5.0-15	---	5.6-6.0	0
	16-72	5.0-15	---	6.1-6.5	0
31MN03: 31-Minto-----	0-5	---	115-155	4.5-5.0	0
	5-9	15-30	---	5.6-6.5	0
	9-16	5.0-15	---	5.6-6.0	0
	16-72	5.0-15	---	6.1-6.5	0

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
31MN04: 31-Minto-----	0-5	---	115-155	4.5-5.0	0
	5-9	15-30	---	5.6-6.5	0
	9-16	5.0-15	---	5.6-6.0	0
	16-72	5.0-15	---	6.1-6.5	0
31MN05: 31-Minto-----	0-5	---	115-155	4.5-5.0	0
	5-9	15-30	---	5.6-6.5	0
	9-16	5.0-15	---	5.6-6.0	0
	16-72	5.0-15	---	6.1-6.5	0
31-Chatanika -----	0-4	---	115-155	4.5-6.1	0
	4-6	---	15-30	4.5-5.5	0
	6-21	5.0-15	---	4.5-6.1	0
	21-72	---	---	4.5-6.1	0
31MN06: 31-Minto-----	0-5	---	115-155	4.5-5.0	0
	5-9	15-30	---	5.6-6.5	0
	9-16	5.0-15	---	5.6-6.0	0
	16-72	5.0-15	---	6.1-6.5	0
31-Chatanika -----	0-4	---	115-155	4.5-6.1	0
	4-6	---	15-30	4.5-5.5	0
	6-21	5.0-15	---	4.5-6.1	0
	21-72	---	---	4.5-6.1	0
31MN07: 31-Minto-----	0-5	---	115-155	4.5-5.0	0
	5-9	15-30	---	5.6-6.5	0
	9-16	5.0-15	---	5.6-6.0	0
	16-72	5.0-15	---	6.1-6.5	0
31-Chatanika -----	0-4	---	115-155	4.5-6.1	0
	4-6	---	15-30	4.5-5.5	0
	6-21	5.0-15	---	4.5-6.1	0
	21-72	---	---	4.5-6.1	0
31RS01: 31-Rosie -----	0-12	3.1-13	---	6.8-8.2	0-1
	12-22	3.0-13	---	7.5-8.2	2-6
	22-28	2.6-8.9	---	7.5-8.2	4-9
	28-72	---	---	7.5-8.2	---
31SA06: 31-Saulich -----	0-16	---	115-155	4.5-5.5	0
	16-21	15-30	---	5.1-6.6	0
	21-72	---	---	5.1-6.6	0
31-Minto-----	0-5	---	115-155	4.5-5.0	0
	5-9	15-30	---	5.6-6.5	0
	9-16	5.0-15	---	5.6-6.0	0
	16-72	5.0-15	---	6.1-6.5	0

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
31SA08:					
31-Saulich -----	0-16	---	115-155	4.5-5.5	0
	16-21	15-30	---	5.1-6.6	0
	21-72	---	---	5.1-6.6	0
31-Chatanika -----	0-4	---	115-155	4.5-6.1	0
	4-6	---	15-30	4.5-5.5	0
	6-21	5.0-15	---	4.5-6.1	0
	21-72	---	---	4.5-6.1	0
31-Minto -----	0-5	---	115-155	4.5-5.0	0
	5-9	15-30	---	5.6-6.5	0
	9-16	5.0-15	---	5.6-6.0	0
	16-72	5.0-15	---	6.1-6.5	0
31SR02:					
31-Strelna -----	0-8	42-97	---	5.0-6.8	0
	8-14	14-34	---	5.2-6.6	0
	14-22	14-34	---	5.2-6.6	0
	22-24	---	---	5.2-6.6	0
	24-72	---	---	5.2-6.6	0
31SR03:					
31-Strelna -----	0-8	42-97	---	5.0-6.8	0
	8-14	14-34	---	5.2-6.6	0
	14-22	14-34	---	5.2-6.6	0
	22-24	---	---	5.2-6.6	0
	24-72	---	---	5.2-6.6	0
31SR04:					
31-Strelna -----	0-8	42-97	---	5.0-6.8	0
	8-14	14-34	---	5.2-6.6	0
	14-22	14-34	---	5.2-6.6	0
	22-24	---	---	5.2-6.6	0
	24-72	---	---	5.2-6.6	0
31SR05:					
31-Strelna -----	0-8	42-97	---	5.0-6.8	0
	8-14	14-34	---	5.2-6.6	0
	14-22	14-34	---	5.2-6.6	0
	22-24	---	---	5.2-6.6	0
	24-72	---	---	5.2-6.6	0
31-Toghotthele -----	0-1	92-100	---	5.8-6.7	0
	1-4	3.1-13	---	5.8-6.7	0
	4-51	3.0-13	---	5.8-6.7	0
	51-72	0.1-0.5	---	7.4-8.2	1-5
31ST01:					
31-Steese -----	0-2	115-155	---	5.1-6.5	0
	2-5	---	15-30	5.1-6.0	0
	5-27	5.0-15	---	5.1-6.0	0
	27-33	5.0-10	---	6.1-6.5	0
	33-72	---	---	---	---

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
31ST02: 31-Steese-----	0-2	115-155	---	5.1-6.5	0
	2-5	---	15-30	5.1-6.0	0
	5-27	5.0-15	---	5.1-6.0	0
	27-33	5.0-10	---	6.1-6.5	0
	33-72	---	---	---	---
31ST03: 31-Steese-----	0-2	115-155	---	5.1-6.5	0
	2-5	---	15-30	5.1-6.0	0
	5-27	5.0-15	---	5.1-6.0	0
	27-33	5.0-10	---	6.1-6.5	0
	33-72	---	---	---	---
31ST04: 31-Steese-----	0-2	115-155	---	5.1-6.5	0
	2-5	---	15-30	5.1-6.0	0
	5-27	5.0-15	---	5.1-6.0	0
	27-33	5.0-10	---	6.1-6.5	0
	33-72	---	---	---	---
31ST05: 31-Steese-----	0-2	115-155	---	5.1-6.5	0
	2-5	---	15-30	5.1-6.0	0
	5-27	5.0-15	---	5.1-6.0	0
	27-33	5.0-10	---	6.1-6.5	0
	33-72	---	---	---	---
31ST06: 31-Steese-----	0-2	115-155	---	5.1-6.5	0
	2-5	---	15-30	5.1-6.0	0
	5-27	5.0-15	---	5.1-6.0	0
	27-33	5.0-10	---	6.1-6.5	0
	33-72	---	---	---	---
31ST08: 31-Steese-----	0-2	115-155	---	5.1-6.5	0
	2-5	---	15-30	5.1-6.0	0
	5-27	5.0-15	---	5.1-6.0	0
	27-33	5.0-10	---	6.1-6.5	0
	33-72	---	---	---	---
31-Gilmore -----	0-3	115-155	---	5.1-6.0	0
	3-6	15-30	---	5.6-6.0	0
	6-12	1.0-5.0	---	5.6-6.0	0
	12-19	1.0-5.0	---	6.1-6.5	0
	19-72	---	---	---	---
31ST09: 31-Steese-----	0-2	115-155	---	5.1-6.5	0
	2-5	---	15-30	5.1-6.0	0
	5-27	5.0-15	---	5.1-6.0	0
	27-33	5.0-10	---	6.1-6.5	0
	33-72	---	---	---	---

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
31ST09:					
31-Gilmore -----	0-3	115-155	---	5.1-6.0	0
	3-6	15-30	---	5.6-6.0	0
	6-12	1.0-5.0	---	5.6-6.0	0
	12-19	1.0-5.0	---	6.1-6.5	0
	19-72	---	---	---	---
31ST10:					
31-Steese-----	0-2	115-155	---	5.1-6.5	0
	2-5	---	15-30	5.1-6.0	0
	5-27	5.0-15	---	5.1-6.0	0
	27-33	5.0-10	---	6.1-6.5	0
	33-72	---	---	---	---
31-Gilmore -----	0-3	115-155	---	5.1-6.0	0
	3-6	15-30	---	5.6-6.0	0
	6-12	1.0-5.0	---	5.6-6.0	0
	12-19	1.0-5.0	---	6.1-6.5	0
	19-72	---	---	---	---
31ST11:					
31-Steese-----	0-2	115-155	---	5.1-6.5	0
	2-5	---	15-30	5.1-6.0	0
	5-27	5.0-15	---	5.1-6.0	0
	27-33	5.0-10	---	6.1-6.5	0
	33-72	---	---	---	---
31-Gilmore -----	0-3	115-155	---	5.1-6.0	0
	3-6	15-30	---	5.6-6.0	0
	6-12	1.0-5.0	---	5.6-6.0	0
	12-19	1.0-5.0	---	6.1-6.5	0
	19-72	---	---	---	---
31TG01:					
31-Toghotthele -----	0-1	92-100	---	5.8-6.7	0
	1-4	3.1-13	---	5.8-6.7	0
	4-51	3.0-13	---	5.8-6.7	0
	51-72	0.1-0.5	---	7.4-8.2	1-5
31TG02:					
31-Toghotthele -----	0-1	92-100	---	5.8-6.7	0
	1-4	3.1-13	---	5.8-6.7	0
	4-51	3.0-13	---	5.8-6.7	0
	51-72	0.1-0.5	---	7.4-8.2	1-5
31-Fairbanks-----	0-3	115-155	---	5.6-6.0	0
	3-30	15-30	---	5.6-6.0	0
	30-72	5.0-15	---	6.1-7.3	0-1
31TG03:					
31-Toghotthele -----	0-1	92-100	---	5.8-6.7	0
	1-4	3.1-13	---	5.8-6.7	0
	4-51	3.0-13	---	5.8-6.7	0
	51-72	0.1-0.5	---	7.4-8.2	1-5
31-Fairbanks-----	0-3	115-155	---	5.6-6.0	0
	3-30	15-30	---	5.6-6.0	0
	30-72	5.0-15	---	6.1-7.3	0-1

Table 7. Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate
	In.	meq/100 g	meq/100 g	pH	Pct.
31TG04:					
31-Toghotthele -----	0-1	92-100	---	5.8-6.7	0
	1-4	3.1-13	---	5.8-6.7	0
	4-51	3.0-13	---	5.8-6.7	0
	51-72	0.1-0.5	---	7.4-8.2	1-5
31-Fairbanks -----	0-3	115-155	---	5.6-6.0	0
	3-30	15-30	---	5.6-6.0	0
	30-72	5.0-15	---	6.1-7.3	0-1
31TG05:					
31-Toghotthele -----	0-1	92-100	---	5.8-6.7	0
	1-4	3.1-13	---	5.8-6.7	0
	4-51	3.0-13	---	5.8-6.7	0
	51-72	0.1-0.5	---	7.4-8.2	1-5
31-Fairbanks -----	0-3	115-155	---	5.6-6.0	0
	3-30	15-30	---	5.6-6.0	0
	30-72	5.0-15	---	6.1-7.3	0-1
R29WAA:					
29-Water -----	---	---	---	---	---
R31WAA:					
29-Water -----	---	---	---	---	---





Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
							In.	In.	
29-Piledriver, occasionally flooded -----	B	Apr	Occasional	Brief	Frequent	Long	6-0	0- 4	Wet
								4-14	Wet, frozen
								14-47	Moist
		May	Occasional	Brief	---	---	---	47-72	Wet
								0-12	Dry to moist
								12-22	Dry to moist, frozen
29EL02: 29-Eielson, rarely flooded --	B	Apr	Rare	---	Frequent	Long	6-0	22-47	Dry to moist
								47-72	Wet
								0-47	Dry to moist
		May-Sep	Rare	---	---	---	---	47-72	Wet
								0-47	Moist
								47-72	Wet
29-Tanana-----	D	Apr-May	Rare	---	Frequent	Long	6-0	0-12	Wet
								12-72	Wet, frozen
		Jun	Rare	---	---	---	---	0- 6	Moist
								6-18	Wet
		Jul-Sep	Rare	---	---	---	---	18-72	Wet, frozen
								0-12	Moist
29FU01: 29-Fubar, occasionally flooded-----	B	Apr-Sep	Occasional	Brief	None	---	---	12-25	Wet
								25-72	Wet, frozen
29-Piledriver, occasionally flooded -----	B	Apr	Occasional	Brief	Frequent	Long	6-0	0-54	Moist
								54-72	Wet
								0- 4	Wet
		May-Sep	Occasional	Brief	---	---	---	4-14	Wet, frozen
								14-47	Moist
								47-72	Wet
29GE01: 29-Gerstle -----	B	Apr	None	---	Frequent	Long	6-0	0-47	Dry to moist
								47-72	Wet
		May-Sep	None	---	---	---	---	0-72	Moist
29-Moosehead -----	B	Apr	None	---	Frequent	Long	6-0	0- 2	Wet
								2-72	Moist, frozen
		May-Sep	None	---	---	---	---	0-72	Moist

Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
							In.	In.	
29GE02: 29-Gerstle -----	B	Apr	None	---	Frequent	Long	6-0	0- 2	Wet
		May-Sep	None	---	---	---	---	2-72	Moist, frozen
								0-72	Moist
29-Tanana-----	D	Apr-May	Rare	---	Frequent	Long	6-0	0-12	Wet
		Jun	Rare	---	---	---	---	12-72	Wet, frozen
								0- 6	Moist
								6-18	Wet
		Jul-Sep	Rare	---	---	---	---	18-72	Wet, frozen
								0-12	Moist
								12-25	Wet
								25-72	Wet, frozen
29GE04: 29-Gerstle family -----	B	Apr	Frequent	Brief	None	---	---	0- 6	Wet
		May-Sep	---	---	None	---	---	6-72	Moist, frozen
								0-72	Moist
29-Tanacross family -----	D	Apr	None	---	None	---	---	0- 6	Wet
		May	None	---	None	---	---	6-72	Moist, frozen
		Jun	None	---	None	---	---	0-10	Wet
		Jul	None	---	None	---	---	10-72	Moist, frozen
								0-14	Wet
								14-72	Moist, frozen
		Aug	None	---	None	---	---	0- 8	Moist
		Sep	None	---	None	---	---	8-18	Wet
								18-72	Moist, frozen
								0-20	Moist
								20-72	Moist, frozen
								0-24	Moist
								24-72	Moist, frozen
29JV01: 29-Jarvis -----	B	Apr	Rare	---	Occasional	Long	4-0	0-12	Wet
		May-Sep	Rare	---	---	---	---	12-22	Wet, frozen
								22-72	Dry to moist, frozen
								0-72	Dry to moist
29JV02: 29-Jarvis, occasionally flooded-----	B	Apr	Occasional	Brief	Occasional	Long	4-0	0-12	Wet
		May-Sep	Occasional	Brief	---	---	---	12-22	Wet, frozen
								22-72	Dry to moist, frozen
								0-72	Dry to moist
29JV04: 29-Jarvis -----	B	Apr	Rare	---	Occasional	Long	4-0	0-12	Wet
		May-Sep	Rare	---	---	---	---	12-22	Wet, frozen
								22-72	Dry to moist, frozen
								0-72	Dry to moist
29-Salchaket-----	B	Apr	Rare	---	Frequent	Long	6-0	0- 8	Wet
		May-Sep	Rare	---	---	---	---	8-18	Wet, frozen
								18-72	Dry to moist, frozen
								0-72	Dry to moist

Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
							In.	In.	
29JV05: 29-Jarvis, occasionally flooded-----	B	Apr	Occasional	Brief	Occasional	Long	4-0	0-12 12-22 22-72	Wet Wet, frozen Dry to moist, frozen
		May-Sep	Occasional	Brief	---	---	---	0-72	Dry to moist
29-Salchaket, occasionally flooded -----	B	Apr	Occasional	Brief	Frequent	Long	6-0	0- 8 8-18 18-72	Wet Wet, frozen Dry to moist, frozen
		May-Sep	Occasional	Brief	---	---	---	0-72	Dry to moist
29KU01: 29-Koyukuk -----	B	Apr	None	---	None	---	---	0- 4 4-72	Moist Moist, frozen
		May-Sep	None	---	None	---	---	0-72	Moist
29-Audrey family-----	B	Apr	None	---	None	---	---	0- 6 6- 8 8-72	Wet Wet, frozen Moist, frozen
		May	None	---	None	---	---	0-14 14-22 22-72	Moist Wet Moist
		Jun	None	---	None	---	---	0-16 16-20 20-72	Moist Wet Moist
		Jul-Sep	None	---	None	---	---	0-72	Moist
29KZ01: 29-Iksgiza-----	D	Apr	None	---	None	---	---	0- 4 4- 8 8-72	Wet Wet, frozen Moist, frozen
		May	None	---	None	---	---	0- 4 4-12 12-72	Wet Wet, frozen Moist, frozen
		Jun	None	---	None	---	---	0-14 14-72	Wet Moist, frozen
		Jul	None	---	None	---	---	0- 8 8-14 14-16	Moist Wet Moist
		Aug	None	---	None	---	---	16-72 0-12 12-20	Moist, frozen Moist Wet
		Sep	None	---	None	---	---	20-72 0-21 21-72	Moist, frozen Moist Moist, frozen
29-Histels -----	D	Apr	None	---	Occasional	Brief	6-2	0- 4 4-72	Wet Wet, frozen
		May	None	---	Occasional	Brief	6-2	0-12 12-72	Wet Wet, frozen
		Jun	None	---	---	---	---	0-14 14-72	Wet Wet, frozen
		Jul	None	---	---	---	---	0-16 16-72	Wet Wet, frozen
		Aug	None	---	---	---	---	0-18 18-72	Wet Wet, frozen
		Sep	None	---	---	---	---	0-25 25-72	Wet Wet, frozen

Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
							In.	In.	
29KZ02: 29-Iksgiza-----	D	Apr	None	---	None	---	---	0- 4 4- 8 8-72	Wet Wet, frozen Moist, frozen
		May	None	---	None	---	---	0- 4 4-12 12-72	Wet Wet, frozen Moist, frozen
		Jun	None	---	None	---	---	0-14 14-72	Wet Moist, frozen
		Jul	None	---	None	---	---	0- 8 8-14 14-16	Moist Wet Moist
		Aug	None	---	None	---	---	16-72 0-12 12-20	Moist, frozen Moist Wet
		Sep	None	---	None	---	---	20-72 0-21 21-72	Moist, frozen Moist Moist, frozen
29-Lupine family -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
29LS03: 29-Liscum -----	D	Apr	Rare	---	Frequent	Long	12-0	0- 4 4-14 14-72	Wet Wet, frozen Wet
		May	Rare	---	Frequent	Long	12-0	4-12 12-22 22-72	Wet Wet, frozen Wet
		Jun	Rare	---	Frequent	Long	12-0	0-18 18-20 20-72	Wet Wet, frozen Wet
		Jul-Sep	Rare	---	---	---	---	0- 4 4-72	Moist Wet
29-Terric Cryohemists-----	D	Apr	---	---	---	---	---	0-72	Wet, frozen
		May	---	---	Frequent	Very long	12-0	0-72	Wet
		Jun	Rare	---	Frequent	Very long	12-0	0-24 24-72	Wet Wet, frozen
		Jul-Aug	Rare	---	Frequent	Very long	12-0	0-72	Wet
		Sep	---	---	Frequent	Very long	12-0	0-72	Wet
29LU01: 29-Lupine -----	B	Apr	None	---	Frequent	Long	4-0	0- 8 8-72	Moist Moist, frozen
		May-Sep	None	---	---	---	---	0-72	Moist
29LU02: 29-Lupine family -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
29-Beales-----	B	Apr-Sep	None	---	None	---	---	0-72	Dry to moist
29LU03: 29-Lupine family -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
29-Beales-----	B	Apr-Sep	None	---	None	---	---	0-72	Dry to moist

Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
							In.	In.	
29LU04: 29-Lupine family -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
29-Bohica-----	B	Apr	None	---	None	---	---	0-6	Moist
		May	None	---	None	---	---	6-72	Moist, frozen
		Jun	None	---	None	---	---	0-72	Moist
			None	---	None	---	---	0-30	Moist
		Jul-Sep	None	---	None	---	---	30-72	Moist, frozen
								0-72	Moist
29-Iksgiza-----	D	Apr	None	---	None	---	---	0-4	Wet
								4-8	Wet, frozen
								8-72	Moist, frozen
		May	None	---	None	---	---	0-4	Wet
								4-12	Wet, frozen
								12-72	Moist, frozen
		Jun	None	---	None	---	---	0-14	Wet
								14-72	Moist, frozen
		Jul	None	---	None	---	---	0-8	Moist
								8-14	Wet
								14-16	Moist
								16-72	Moist, frozen
		Aug	None	---	None	---	---	0-12	Moist
								12-20	Wet
								20-72	Moist, frozen
		Sep	None	---	None	---	---	0-21	Moist
								21-72	Moist, frozen
29LU05: 29-Lupine -----	B	Apr	None	---	Frequent	Long	4-0	0-8	Moist
								8-72	Moist, frozen
		May-Sep	None	---	---	---	---	0-72	Moist
29-Jarvis -----	B	Apr	Rare	---	Occasional	Long	4-0	0-12	Wet
								12-22	Wet, frozen
								22-72	Dry to moist, frozen
		May-Sep	Rare	---	---	---	---	0-72	Dry to moist
29MH01: 29-Moosehead family -----	B	Apr	Rare	---	None	---	---	0-12	Moist
								12-72	Moist, frozen
		May-Jun	Rare	---	None	---	---	0-72	Moist
		Jul-Sep	---	---	None	---	---	0-72	Moist
29-Nenana -----	B	Apr	None	---	None	---	---	0-6	Moist
								6-72	Moist, frozen
		May-Sep	None	---	None	---	---	0-72	Moist
29NE01: 29-Nenana -----	B	Apr	None	---	None	---	---	0-6	Moist
								6-72	Moist, frozen
		May-Sep	None	---	None	---	---	0-72	Moist
29NE03: 29-Nenana -----	B	Apr	None	---	None	---	---	0-6	Moist
								6-72	Moist, frozen
		May-Sep	None	---	None	---	---	0-72	Moist
29-Donnelly -----	A	Apr-Sep	None	---	None	---	---	0-72	Moist

Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
							In.	In.	
29PL01: 29-Eielson, rarely flooded --	B	Apr	Rare	---	Frequent	Long	6-0	0- 4 4-14 14-47 47-72	Wet Wet, frozen Moist, frozen Wet, frozen
		May-Sep	Rare	---	---	---	---	0-47 47-72	Moist Wet
29-Piledriver -----	B	Apr	Rare	---	Frequent	Long	6-0	0- 4 0-14 4-14 14-47 14-47 47-72 47-72	Wet Wet Wet, frozen Moist Moist Wet Wet
		May	Rare	---	---	---	---	0-12 0-47 12-22 22-47 47-72 47-72	Dry to moist Dry to moist Dry to moist, frozen Dry to moist Wet
		Jun-Sep	Rare	---	---	---	---	0-47 47-72	Dry to moist Wet
29RC01: 29-Richardson-----	B	Apr	None	---	Frequent	Long	6-0	0- 8 8-18 18-72	Wet Wet, frozen Moist, frozen
		May-Sep	None	---	---	---	---	0-72	Moist
29-Salchaket, occasionally flooded -----	B	Apr	Occasional	Brief	Frequent	Long	6-0	0- 8 8-18 18-72	Wet Wet, frozen Dry to moist, frozen
		May-Sep	Occasional	Brief	---	---	---	0-72	Dry to moist
29SA01: 29-Sawmill Creek-----	B	Apr	None	---	Frequent	Long	6-0	0-10 10-72	Moist Moist, frozen
		May-Sep	None	---	---	---	---	0-72	Moist
29SC01: 29-Salchaket family -----	B	Apr	Rare	---	Occasional	Long	6-0	0- 7 7-72	Moist, frozen Moist
		May-Sep	Rare	---	---	---	---	0-72	Moist
29-Hogan family -----	B	Apr	None	---	None	---	---	0- 7 7-72	Wet, frozen Moist
		May	None	---	None	---	---	0-16 16-72	Moist Moist, frozen
		Jun	None	---	None	---	---	0-26 26-72	Moist Moist, frozen
		Jul	None	---	None	---	---	0-34 34-72	Moist Moist, frozen
		Aug	None	---	None	---	---	0-37 37-72	Moist Moist, frozen
		Sep	None	---	None	---	---	0-47 47-72	Moist Moist, frozen

Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
							In.	In.	
29SC02: 29-Salchaket-----	B	Apr	Rare	---	Frequent	Long	6-0	0- 8 8-18 18-72	Wet Wet, frozen Dry to moist, frozen
		May-Sep	Rare	---	---	---	---	0-72	Dry to moist
29SC03: 29-Salchaket, occasionally flooded -----	B	Apr	Occasional	Brief	Frequent	Long	6-0	0- 8 8-18 18-72	Wet Wet, frozen Dry to moist, frozen
		May-Sep	Occasional	Brief	---	---	---	0-72	Dry to moist
29TC01: 29-Tanacross-----	D	Apr-May	Rare	---	Frequent	Long	6-0	0- 8 8-72	Wet Wet, frozen
		Jun-Sep	Rare	---	---	---	---	0-17 17-72	Wet Wet, frozen
29TC02: 29-Tanacross family -----	D	Apr	None	---	None	---	---	0- 6 6-72	Wet Moist, frozen
		May	None	---	None	---	---	0-10 10-72	Wet Moist, frozen
		Jun	None	---	None	---	---	0-14 14-72	Wet Moist, frozen
		Jul	None	---	None	---	---	0- 8 8-18	Moist Wet
		Aug	None	---	None	---	---	18-72 0-20	Moist, frozen Moist
		Sep	None	---	None	---	---	20-72 0-24 24-72	Moist, frozen Moist Moist, frozen
29-Moosehead -----	B	Apr	None	---	Frequent	Long	6-0	0- 2 2-72	Wet Moist, frozen
		May-Sep	None	---	---	---	---	0-72	Moist
29TC03: 29-Tanacross, occasionally flooded -----	C	Apr	Occasional	Brief	Frequent	Long	10-2	0- 2 2-72	Wet Wet, frozen
		May	Occasional	Brief	---	---	---	0- 5 5-72	Wet Wet, frozen
		Jun	Occasional	Brief	---	---	---	0- 6 6-72	Wet Wet, frozen
		Jul	---	---	---	---	---	0- 8 8-72	Wet Wet, frozen
		Aug	---	---	---	---	---	0- 2 5-12	Moist Wet
		Sep	---	---	---	---	---	12-72 0- 8 8-17 17-72	Wet, frozen Moist Wet Wet, frozen

Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
							In.	In.	
29TC03: 29-Histels -----	D	Apr	None	---	Occasional	Brief	6-2	0- 4 4-72	Wet Wet, frozen
		May	None	---	Occasional	Brief	6-2	0-12 12-72	Wet Wet, frozen
		Jun	None	---	---	---	---	0-14 14-72	Wet Wet, frozen
		Jul	None	---	---	---	---	0-16 16-72	Wet Wet, frozen
		Aug	None	---	---	---	---	0-18 18-72	Wet, frozen Wet
		Sep	None	---	---	---	---	0-25 25-72	Wet Wet, frozen
29TN01: 29-Tanana-----	D	Apr-May	Rare	---	Frequent	Long	6-0	0-12 12-72	Wet Wet, frozen
		Jun	Rare	---	---	---	---	0- 6 6-18	Moist Wet
		Jul-Sep	Rare	---	---	---	---	18-72 0-12	Wet, frozen Moist
								12-25 25-72	Wet Wet, frozen
29TS01: 29-Terric Sapristels -----	D	Apr	None	---	Occasional	Brief	6-2	0- 4 4-72	Wet Wet, frozen
		May	None	---	Occasional	Brief	6-2	0-12 12-72	Wet Wet, frozen
		Jun	None	---	---	---	---	0-14 14-72	Wet Wet, frozen
		Jul	None	---	---	---	---	0-16 16-72	Wet Wet, frozen
		Aug	None	---	---	---	---	0-18 18-72	Wet, frozen Wet
		Sep	None	---	---	---	---	0-25 25-72	Wet Wet, frozen
29VM01: 29-Volkmar-----	B	Apr	None	---	Frequent	Long	6-0	0- 2 2-72	Wet Moist, frozen
		May-Sep	None	---	---	---	---	0-72	Moist
29WR01: 29-Riverwash -----		Apr-Sep	Frequent	Long	None	---	---	0-72	Dry to moist
31AN02: 31-Angel -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31-McCloud -----	B	Apr	None	---	None	---	---	0-12 12-72	Moist Moist, frozen
		May-Sep	None	---	None	---	---	0-72	Moist
31AN03: 31-Angel -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31-McCloud -----	B	Apr	None	---	None	---	---	0-12 12-72	Moist Moist, frozen
		May-Sep	None	---	None	---	---	0-72	Moist



Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
							In.	In.	
31BR01: 31-Brigadier -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Ester -----	D	Apr-Jun	None	---	None	---	---	0-4 4-9 9-72	Moist Wet Wet, frozen
		Jul-Sep	None	---	None	---	---	0-4 4-12 12-72	Moist Wet Wet, frozen
31BR02: 31-Brigadier -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Ester -----	D	Apr-Jun	None	---	None	---	---	0-4 4-9 9-72	Moist Wet Wet, frozen
		Jul-Sep	None	---	None	---	---	0-4 4-12 12-72	Moist Wet Wet, frozen
31BR08: 31-Brigadier -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Manchu -----	B	Apr	None	---	None	---	---	0-7 7-72	Moist Wet, frozen
		May	None	---	None	---	---	0-72	Moist
		Jun	None	---	None	---	---	0-14	Moist
		Jul-Sep	None	---	None	---	---	14-72 0-72	Wet Moist
31BR09: 31-Brigadier -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Manchu -----	B	Apr	None	---	None	---	---	0-7 7-72	Moist Wet, frozen
		May	None	---	None	---	---	0-72	Moist
		Jun	None	---	None	---	---	0-14	Moist
		Jul-Sep	None	---	None	---	---	14-72 0-72	Wet Moist
31CH04: 31-Chatanika -----	D	Apr-May	None	---	Frequent	Long	4-0	0-12 12-72	Wet Wet, frozen
		Jun-Sep	None	---	---	---	---	0-8 8-21 21-72	Moist Wet Wet, frozen
31-Goldstream -----	D	Apr-Jun	None	---	Frequent	Long	12-0	0-10 10-72	Wet Wet, frozen
		Jul-Sep	None	---	---	---	---	0-8 8-20 20-72	Moist Wet Wet, frozen
31ES01: 31-Ester -----	D	Apr-Jun	None	---	None	---	---	0-4 4-9 9-72	Moist Wet Wet, frozen
		Jul-Sep	None	---	None	---	---	0-4 4-12 12-72	Moist Wet Wet, frozen

Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
							In.	In.	
31FA02: 31-Fairbanks-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31FA03: 31-Fairbanks-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31FA04: 31-Fairbanks-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31FA05: 31-Fairbanks-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31FA07: 31-Fairbanks, gullied -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Fairbanks, gullied, steep-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31FA11: 31-Fairbanks-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Steese-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31GD01: 31-Goldstream -----	D	Apr-Jun  Jul-Sep	None None	--- ---	Frequent ---	Long ---	12-0 ---	0-10 10-72 0- 8 8-20 20-72	Wet Wet, frozen Moist Wet Wet, frozen
31GD02: 31-Goldstream -----	D	Apr-Jun  Jul-Sep	None None	--- ---	Frequent ---	Long ---	12-0 ---	0-10 10-72 0- 8 8-20 20-72	Wet Wet, frozen Moist Wet Wet, frozen
31GD03: 31-Goldstream -----	D	Apr-Jun  Jul-Sep	None None	--- ---	Frequent ---	Long ---	12-0 ---	0-10 10-72 0- 8 8-20 20-72	Wet Wet, frozen Moist Wet Wet, frozen
31-Histels-----	D	Apr-Jun  Jul-Sep	None None	--- ---	Frequent ---	Long ---	12-0 ---	0-10 10-72 0-17 17-72	Wet Wet, frozen Wet Wet, frozen
31GL02: 31-Gilmore -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist
31GL03: 31-Gilmore -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist
31GL04: 31-Gilmore -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist
31GL05: 31-Gilmore -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist

Table 8. Water Features—Continued

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Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
							In.	In.	
31MN05: 31-Minto-----	B	Apr	None	---	None	---	---	0- 4 4-20 20-30 30-72	Moist Wet Wet, frozen Moist, frozen
		May-Sep	None	---	None	---	---	0-72	Moist
31-Chatanika -----	D	Apr-May	None	---	Frequent	Long	4-0	0-12 12-72	Wet Wet, frozen
		Jun-Sep	None	---	---	---	---	0- 8 8-21 21-72	Moist Wet Wet, frozen
31MN06: 31-Minto-----	B	Apr	None	---	None	---	---	0- 4 4-20 20-30 30-72	Moist Wet Wet, frozen Moist, frozen
		May-Sep	None	---	None	---	---	0-72	Moist
31-Chatanika -----	D	Apr-May	None	---	Frequent	Long	4-0	0-12 12-72	Wet Wet, frozen
		Jun-Sep	None	---	---	---	---	0- 8 8-21 21-72	Moist Wet Wet, frozen
31MN07: 31-Minto-----	B	Apr	None	---	None	---	---	0- 4 4-20 20-30 30-72	Moist Wet Wet, frozen Moist, frozen
		May-Sep	None	---	None	---	---	0-72	Moist
31-Chatanika -----	D	Apr-May	None	---	Frequent	Long	4-0	0-12 12-72	Wet Wet, frozen
		Jun-Sep	None	---	---	---	---	0- 8 8-21 21-72	Moist Wet Wet, frozen
31RS01: 31-Rosie -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist
31SA06: 31-Saulich -----	D	Apr-May	None	---	Frequent	Long	4-0	0-10 10-72	Wet Wet, frozen
		Jun-Sep	None	---	---	---	---	0- 8 8-21 21-72	Moist Wet Wet, frozen
31-Minto-----	B	Apr	None	---	None	---	---	0- 4 4-20 20-30 30-72	Moist Wet Wet, frozen Moist, frozen
		May-Sep	None	---	None	---	---	0-72	Moist

Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
							In.	In.	
31SA08: 31-Saulich -----	D	Apr-May	None	---	Frequent	Long	4-0	0-10	Wet
		Jun-Sep	None	---	---	---	---	10-72	Wet, frozen
								0- 8	Moist
								8-21	Wet
								21-72	Wet, frozen
31-Chatanika -----	D	Apr-May	None	---	Frequent	Long	4-0	0-12	Wet
		Jun-Sep	None	---	---	---	---	12-72	Wet, frozen
								0- 8	Moist
								8-21	Wet
								21-72	Wet, frozen
31-Minto-----	B	Apr	None	---	None	---	---	0- 4	Moist
								4-20	Wet
								20-30	Wet, frozen
		May-Sep	None	---	None	---	---	30-72	Moist, frozen
								0-72	Moist
31SR02: 31-Strelna -----	D	Apr	None	---	None	---	---	0-12	Wet
		May	None	---	None	---	---	12-72	Moist, frozen
								0-12	Moist
								12-20	Wet
		Jun-Sep	None	---	None	---	---	20-72	Moist, frozen
								0-22	Moist
								22-72	Moist, frozen
31SR03: 31-Strelna -----	D	Apr	None	---	None	---	---	0-12	Wet
		May	None	---	None	---	---	12-72	Moist, frozen
								0-12	Moist
								12-20	Wet
		Jun-Sep	None	---	None	---	---	20-72	Moist, frozen
								0-22	Moist
								22-72	Moist, frozen
31SR04: 31-Strelna -----	D	Apr	None	---	None	---	---	0-12	Wet
		May	None	---	None	---	---	12-72	Moist, frozen
								0-12	Moist
								12-20	Wet
		Jun-Sep	None	---	None	---	---	20-72	Moist, frozen
								0-22	Moist
								22-72	Moist, frozen
31SR05: 31-Strelna -----	D	Apr	None	---	None	---	---	0-12	Wet
		May	None	---	None	---	---	12-72	Moist, frozen
								0-12	Moist
								12-20	Wet
		Jun-Sep	None	---	None	---	---	20-72	Moist, frozen
								0-22	Moist
								22-72	Moist, frozen
31-Toghotthele -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist

Table 8. Water Features—Continued

Map symbol and soil name	Hydro- logic group	Month	Flooding		Ponding			Soil Moisture Status	
			Frequency	Duration	Frequency	Duration	Depth	Depth	Status
31ST01: 31-Steese-----	B	Apr-Sep	None	---	None	---	In.	In.	
								0-72	Moist
31ST02: 31-Steese-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31ST03: 31-Steese-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31ST04: 31-Steese-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31ST05: 31-Steese-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31ST06: 31-Steese-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31ST08: 31-Steese-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Gilmore -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist
31ST09: 31-Steese-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Gilmore -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist
31ST10: 31-Steese-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Gilmore -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist
31ST11: 31-Steese-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Gilmore -----	D	Apr-Sep	None	---	None	---	---	0-72	Moist
31TG01: 31-Toghotthele -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31TG02: 31-Toghotthele -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Fairbanks-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31TG03: 31-Toghotthele -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Fairbanks-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31TG04: 31-Toghotthele -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Fairbanks-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31TG05: 31-Toghotthele -----	B	Apr-Sep	None	---	None	---	---	0-72	Moist
31-Fairbanks-----	B	Apr-Sep	None	---	None	---	---	0-72	Moist

**Table 9. Soil Features**

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
28BU01:								
28-Butchlake-----	none	---	---	0	0	Moderate	Moderate	Moderate
28-Southpaw-----	none	---	---	0	0	Moderate	High	Moderate
28-Salchaket family-----	none	---	---	0	0	Moderate	Low	Moderate
28SP01:								
28-Southpaw-----	none	---	---	0	0	Moderate	High	Moderate
28-Butchlake-----	none	---	---	0	0	Moderate	Moderate	Moderate
28SP02:								
28-Southpaw-----	none	---	---	0	0	Moderate	High	Moderate
28-Butchlake-----	none	---	---	0	0	Moderate	Moderate	Moderate
28TE01:								
28-Terric Hemistels-----	Permafrost	14-30	Indurated	24-41	35-59	High	High	Moderate
28-Typic Aquiturbels-----	Permafrost	14-31	Indurated	0-6	2-8	High	Moderate	Low
28-Water-----	none	---	---	---	---	---	---	---
29AE01:								
29-Aquic Haplocrypts-----	none	---	---	0	0	High	Moderate	Moderate
29-Typic Cryaquepts-----	none	---	---	0	0	High	Low	Moderate
29CH01:								
29-Chena-----	none	---	---	0	0	Low	Moderate	Moderate
29EL01:								
29-Eielson-----	none	---	---	0	0	High	Moderate	Moderate
29-Piledriver,----- occasionally flooded	none	---	---	0	0	High	Moderate	Moderate
29EL02:								
29-Eielson, rarely flooded-----	none	---	---	0	0	High	Moderate	Moderate
29-Tanana-----	Permafrost	16-47	Indurated	18-33	24-47	High	Moderate	Moderate
29FU01:								
29-Fubar, occasionally----- flooded	none	---	---	0	0	Low	Moderate	Moderate
29-Piledriver,----- occasionally flooded	none	---	---	0	0	High	Moderate	Moderate
29GE01:								
29-Gerstle-----	none	---	---	0	0	Moderate	Moderate	Moderate
29-Moosehead-----	none	---	---	0	0	Moderate	Moderate	Moderate

Table 9—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
29GE02: 29-Gerstle -----	none	---	---	0	0	Moderate	Moderate	Moderate
29-Tanana -----	Permafrost	16-47	Indurated	18-33	24-47	High	Moderate	Moderate
29GE04: 29-Gerstle family -----	none	---	---	0	0	Moderate	Moderate	Moderate
29-Tanacross family -----	Permafrost	20-28	Indurated	24-41	35-59	High	High	Moderate
29JV01: 29-Jarvis -----	none	---	---	0	0	Moderate	Moderate	Moderate
29JV02: 29-Jarvis, occasionally flooded -----	none	---	---	0	0	Moderate	Moderate	Moderate
29JV04: 29-Jarvis -----	none	---	---	0	0	Moderate	Moderate	Moderate
29-Salchaket -----	none	---	---	0	0	Moderate	Moderate	Moderate
29JV05: 29-Jarvis, occasionally flooded -----	none	---	---	0	0	Moderate	Moderate	Moderate
29-Salchaket, ----- occasionally flooded	none	---	---	0	0	Moderate	Moderate	Moderate
29KU01: 29-Koyukuk -----	none	---	---	0	0	Moderate	Moderate	Moderate
29-Audrey family -----	none	---	---	0	0	High	Moderate	Moderate
29KZ01: 29-Iksgiza -----	Permafrost	16-28	Indurated	35-59	24-41	High	High	Moderate
29-Histels -----	Permafrost	15-30	Indurated	35-59	24-41	High	Moderate	Moderate
29KZ02: 29-Iksgiza -----	Permafrost	16-28	Indurated	35-59	24-41	High	High	Moderate
29-Lupine family -----	none	---	---	0	0	Moderate	Moderate	Moderate
29LS03: 29-Liscum -----	none	---	---	1-6	6-12	High	Moderate	Moderate
29-Terric Cryohemists -----	none	---	---	28-41	39-72	High	High	High
29LU01: 29-Lupine -----	none	---	---	0	0	Low	Low	Moderate
29LU02: 29-Lupine family -----	none	---	---	0	0	Moderate	Moderate	Moderate
29-Beales -----	none	---	---	0	0	Low	Low	Moderate



Table 9—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
29LU03: 29-Lupine family -----	none	---	---	0	0	Moderate	Moderate	Moderate
29-Beales-----	none	---	---	0	0	Low	Low	Moderate
29LU04: 29-Lupine family -----	none	---	---	0	0	Moderate	Moderate	Moderate
29-Bohica-----	none	---	---	0	0	Moderate	Low	Moderate
29-lksgiza-----	Permafrost	16-28	Indurated	35-59	24-41	High	High	Moderate
29LU05: 29-Lupine -----	none	---	---	0	0	Low	Low	Moderate
29-Jarvis -----	none	---	---	0	0	Moderate	Moderate	Moderate
29MH01: 29-Moosehead family -----	none	---	---	0	0	Moderate	Moderate	Moderate
29-Nenana -----	none	---	---	0	0	High	Moderate	Moderate
29NE01: 29-Nenana -----	none	---	---	0	0	High	Moderate	Moderate
29NE03: 29-Nenana -----	none	---	---	0	0	High	Moderate	Moderate
29-Donnelly -----	none	---	---	0	0	Moderate	Moderate	Moderate
29PL01: 29-Eielson, rarely flooded -----	none	---	---	0	0	High	Moderate	Moderate
29-Piledriver -----	none	---	---	0	0	High	Moderate	Moderate
29PT01: 29-Pits, gravel -----	none	---	---	---	---	---	---	---
29PT02: 29-Pits, quarry-----	none	---	---	---	---	---	---	---
29RC01: 29-Richardson-----	none	---	---	0	0	High	High	Moderate
29-Salchaket, ----- occasionally flooded	none	---	---	0	0	Moderate	Moderate	Moderate
29SA01: 29-Sawmill Creek-----	none	---	---	0	0	Moderate	Moderate	Moderate
29SC01: 29-Salchaket family -----	none	---	---	0	0	Moderate	Low	Moderate
29-Hogan family -----	Permafrost	33-49	Indurated	24-41	35-59	Moderate	High	Moderate
29SC02: 29-Salchaket-----	none	---	---	0	0	Moderate	Moderate	Moderate

Table 9—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
29SC03: 29-Salchaket, ----- occasionally flooded	none	---	---	0	0	Moderate	Moderate	Moderate
29TC01: 29-Tanacross -----	Permafrost	10-28	Indurated	1-41	35-59	High	High	High
29TC02: 29-Tanacross family -----	Permafrost	20-28	Indurated	24-41	35-59	High	High	Moderate
29-Moosehead -----	none	---	---	0	0	Moderate	Moderate	Moderate
29TC03: 29-Tanacross, ----- occasionally flooded	Permafrost	10-28	Indurated	24-41	35-59	High	High	Low
29-Histels -----	Permafrost	15-30	Indurated	35-59	24-41	High	Moderate	Moderate
29TN01: 29-Tanana -----	Permafrost	16-47	Indurated	18-33	24-47	High	Moderate	Moderate
29TS01: 29-Terric Sapristels -----	Permafrost	10-30	Indurated	35-59	24-41	High	Moderate	Moderate
29VM01: 29-Volkmar -----	none	---	---	0	0	High	High	Low
29WR01: 29-Water -----	none	---	---	---	---	---	---	---
29-Riverwash -----	none	---	---	---	---	---	---	---
31AN02: 31-Angel -----	Paralithic bedrock	9-20	Moderately cemented	0	0	Moderate	Moderate	Moderate
31-McCloud -----	Paralithic bedrock	21-35	Moderately cemented	0	0	Moderate	Moderate	Moderate
31AN03: 31-Angel -----	Paralithic bedrock	9-20	Moderately cemented	0	0	Moderate	Moderate	Moderate
31-McCloud -----	Paralithic bedrock	21-35	Moderately cemented	0	0	Moderate	Moderate	Moderate
31BR01: 31-Brigadier -----	Paralithic bedrock	12-24	Moderately cemented	0	0	Moderate	Moderate	Moderate
31-Ester -----	Permafrost Paralithic bedrock	7-30 14-39	Indurated Strongly cemented	4-20	6-28	High	High	High
31BR02: 31-Brigadier -----	Paralithic bedrock	12-24	Moderately cemented	0	0	Moderate	Moderate	Moderate
31-Ester -----	Permafrost Paralithic bedrock	7-30 14-39	Indurated Strongly cemented	4-20	6-28	High	High	High
31BR08: 31-Brigadier -----	Paralithic bedrock	12-24	Moderately cemented	0	0	Moderate	Moderate	Moderate
31-Manchu -----	Paralithic bedrock	24-47	Moderately cemented	0	0	Moderate	Moderate	Moderate

Table 9—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
31BR09: 31-Brigadier -----	Paralithic bedrock	12-24	Moderately cemented	0	0	Moderate	Moderate	Moderate
31-Manchu -----	Paralithic bedrock	24-47	Moderately cemented	0	0	Moderate	Moderate	Moderate
31CH04: 31-Chatanika -----	Permafrost	12-39	Indurated	28-55	39-79	High	Moderate	Moderate
31-Goldstream -----	Permafrost	14-24	Indurated	28-55	39-79	High	High	High
31ES01: 31-Ester -----	Permafrost Paralithic bedrock	7-30 14-39	Indurated Strongly cemented	4-20	6-28	High	High	High
31FA02: 31-Fairbanks -----	none	---	---	0	0	High	Moderate	Moderate
31FA03: 31-Fairbanks -----	none	---	---	0	0	High	Moderate	Moderate
31FA04: 31-Fairbanks -----	none	---	---	0	0	High	Moderate	Moderate
31FA05: 31-Fairbanks -----	none	---	---	0	0	High	Moderate	Moderate
31FA07: 31-Fairbanks, gullied -----	none	---	---	0	0	High	Moderate	Moderate
31-Fairbanks, gullied, steep ---	none	---	---	0	0	High	Moderate	Moderate
31FA11: 31-Fairbanks -----	none	---	---	0	0	High	Moderate	Moderate
31-Steese -----	Paralithic bedrock	20-40	Moderately cemented	0	0	Moderate	Moderate	Moderate
31GD01: 31-Goldstream -----	Permafrost	14-24	Indurated	28-55	39-79	High	High	High
31GD02: 31-Goldstream -----	Permafrost	14-24	Indurated	28-55	39-79	High	High	High
31GD03: 31-Goldstream -----	Permafrost	14-24	Indurated	28-55	39-79	High	High	High
31-Histels -----	Permafrost	24-31	Indurated	28-55	39-79	High	High	High
31GL02: 31-Gilmore -----	Paralithic bedrock	13-24	Moderately cemented	0	0	Moderate	Moderate	Moderate
31GL03: 31-Gilmore -----	Paralithic bedrock	13-24	Moderately cemented	0	0	Moderate	Moderate	Moderate
31GL04: 31-Gilmore -----	Paralithic bedrock	13-24	Moderately cemented	0	0	Moderate	Moderate	Moderate

Table 9—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
31GL05: 31-Gilmore -----	Paralithic bedrock	13-24	Moderately cemented	0	0	Moderate	Moderate	Moderate
31GL06: 31-Gilmore -----	Paralithic bedrock	13-24	Moderately cemented	0	0	Moderate	Moderate	Moderate
31HA01: 31-Happy -----	Permafrost	23-39	Indurated	16-33	24-47	High	High	High
31MC01: 31-McCloud -----	Paralithic bedrock	21-35	Moderately cemented	0	0	Moderate	Moderate	Moderate
31MC02: 31-McCloud -----	Paralithic bedrock	21-35	Moderately cemented	0	0	Moderate	Moderate	Moderate
31MC03: 31-McCloud -----	Paralithic bedrock	21-35	Moderately cemented	0	0	Moderate	Moderate	Moderate
31-Fairbanks -----	none	---	---	0	0	High	Moderate	Moderate
31MN01: 31-Minto -----	none	---	---	28-55	39-79	High	High	High
31MN02: 31-Minto -----	none	---	---	28-55	39-79	High	High	High
31MN03: 31-Minto -----	none	---	---	28-55	39-79	High	High	High
31MN04: 31-Minto -----	none	---	---	28-55	39-79	High	High	High
31MN05: 31-Minto -----	none	---	---	28-55	39-79	High	High	High
31-Chatanika -----	Permafrost	12-39	Indurated	28-55	39-79	High	Moderate	Moderate
31MN06: 31-Minto -----	none	---	---	28-55	39-79	High	High	High
31-Chatanika -----	Permafrost	12-39	Indurated	28-55	39-79	High	Moderate	Moderate
31MN07: 31-Minto -----	none	---	---	28-55	39-79	High	High	High
31-Chatanika -----	Permafrost	12-39	Indurated	28-55	39-79	High	Moderate	Moderate
31RS01: 31-Rosie -----	Paralithic bedrock	14-37	Moderately cemented	0	0	Moderate	Moderate	Moderate
31SA06: 31-Saulich -----	Permafrost	14-24	Indurated	28-55	39-79	High	High	High
31-Minto -----	none	---	---	28-55	39-79	High	High	High

Table 9—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
31SA08: 31-Saulich -----	Permafrost	14-24	Indurated	28-55	39-79	High	High	High
31-Chatanika -----	Permafrost	12-39	Indurated	28-55	39-79	High	Moderate	Moderate
31-Minto-----	none	---	---	28-55	39-79	High	High	High
31SR02: 31-Strelna -----	Permafrost	18-26	Indurated	0	0	High	Moderate	Moderate
31SR03: 31-Strelna -----	Permafrost	18-26	Indurated	0	0	High	Moderate	Moderate
31SR04: 31-Strelna -----	Permafrost	18-26	Indurated	0	0	High	Moderate	Moderate
31SR05: 31-Strelna -----	Permafrost	18-26	Indurated	0	0	High	Moderate	Moderate
31-Toghotthele -----	none	---	---	0	0	High	Moderate	Moderate
31ST01: 31-Steese-----	Paralithic bedrock	20-40	Moderately cemented	0	0	Moderate	Moderate	Moderate
31ST02: 31-Steese-----	Paralithic bedrock	20-40	Moderately cemented	0	0	Moderate	Moderate	Moderate
31ST03: 31-Steese-----	Paralithic bedrock	20-40	Moderately cemented	0	0	Moderate	Moderate	Moderate
31ST04: 31-Steese-----	Paralithic bedrock	20-40	Moderately cemented	0	0	Moderate	Moderate	Moderate
31ST05: 31-Steese-----	Paralithic bedrock	20-40	Moderately cemented	0	0	Moderate	Moderate	Moderate
31ST06: 31-Steese-----	Paralithic bedrock	20-40	Moderately cemented	0	0	Moderate	Moderate	Moderate
31ST08: 31-Steese-----	Paralithic bedrock	20-40	Moderately cemented	0	0	Moderate	Moderate	Moderate
31-Gilmore -----	Paralithic bedrock	13-24	Moderately cemented	0	0	Moderate	Moderate	Moderate
31ST09: 31-Steese-----	Paralithic bedrock	20-40	Moderately cemented	0	0	Moderate	Moderate	Moderate
31-Gilmore -----	Paralithic bedrock	13-24	Moderately cemented	0	0	Moderate	Moderate	Moderate
31ST10: 31-Steese-----	Paralithic bedrock	20-40	Moderately cemented	0	0	Moderate	Moderate	Moderate
31-Gilmore -----	Paralithic bedrock	13-24	Moderately cemented	0	0	Moderate	Moderate	Moderate
31ST11: 31-Steese-----	Paralithic bedrock	20-40	Moderately cemented	0	0	Moderate	Moderate	Moderate
31-Gilmore -----	Paralithic bedrock	13-24	Moderately cemented	0	0	Moderate	Moderate	Moderate

Table 9—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In.		In.	In.			
31TG01: 31-Toghotthele -----	none	---	---	0	0	High	Moderate	Moderate
31TG02: 31-Toghotthele -----	none	---	---	0	0	High	Moderate	Moderate
31-Fairbanks -----	none	---	---	0	0	High	Moderate	Moderate
31TG03: 31-Toghotthele -----	none	---	---	0	0	High	Moderate	Moderate
31-Fairbanks -----	none	---	---	0	0	High	Moderate	Moderate
31TG04: 31-Toghotthele -----	none	---	---	0	0	High	Moderate	Moderate
31-Fairbanks -----	none	---	---	0	0	High	Moderate	Moderate
31TG05: 31-Toghotthele -----	none	---	---	0	0	High	Moderate	Moderate
31-Fairbanks -----	none	---	---	0	0	High	Moderate	Moderate
R29WAA: 29-Water -----	none	---	---	---	---	---	---	---
R31WAA: 29-Water -----	none	---	---	---	---	---	---	---

**Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails**

(This table gives soil limitation ratings and the primary limiting factors associated with the ratings. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
28BU01: 28-Butchlake-----	40	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
28-Southpaw-----	40	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
28-Salchaket family -----	15	Very limited: Flooding Ponding Sandy surface layer easily displaced	1.00 1.00 0.50	Very limited: Ponding	1.00	Very limited: Ponding Sandy surface layer easily displaced	1.00 0.50
28SP01: 28-Southpaw-----	45	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
28-Butchlake-----	40	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
28SP02: 28-Southpaw-----	45	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.16	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.16	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
28-Butchlake-----	40	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
28TE01: 28-Terric Hemistels -----	55	Very limited: Depth to saturated zone Ponding Excess surface organic matter Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Ponding Depth to permafrost Sandy surface layer easily displaced	1.00 1.00 1.00 1.00 0.50
28-Typic Aquiturbels -----	20	Very limited: Depth to permafrost Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to permafrost Depth to saturated zone Ponding	1.00 1.00 1.00
28-Water -----	20	Not rated		Not rated		Not rated	
29AE01: 29-Aquic Haplocrypts --	55	Very limited: Flooding Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
29-Typic Cryaquepts ----	30	Very limited: Flooding Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.98 0.50	Somewhat limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	0.98 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	0.50 0.44
29CH01: 29-Chena -----	90	Very limited: Flooding Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer slippery when wet	0.50	Somewhat limited: Silty surface layer slippery when wet	0.50
29EL01: 29-Eielson -----	60	Very limited: Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00
29-Piledriver, occasionally flooded ----	30	Very limited: Depth to saturated zone Flooding Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50



Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29EL02: 29-Eielson, rarely flooded-----	50	Very limited: Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00
29-Tanana-----	35	Very limited: Depth to saturated zone Flooding Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50
29FU01: 29-Fubar, occasionally flooded-----	50	Very limited: Flooding Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
29-Piledriver, occasionally flooded ----	40	Very limited: Depth to saturated zone Flooding Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
29GE01: 29-Gerstle -----	65	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
29-Moosehead -----	30	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
29GE02: 29-Gerstle -----	50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29GE02: 29-Tanana-----	40	Very limited: Depth to saturated zone Flooding Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50
29GE04: 29-Gerstle family -----	55	Very limited: Depth to saturated zone Flooding Slow water movement Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.60 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Flooding	1.00 0.50 0.40
29-Tanacross family ----	25	Very limited: Depth to saturated zone Excess surface organic matter Depth to permafrost Slow water movement Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.60 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Depth to permafrost Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50 0.50
29JV01: 29-Jarvis -----	75	Very limited: Depth to saturated zone Flooding Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
29JV02: 29-Jarvis, occasionally flooded ----	85	Very limited: Depth to saturated zone Flooding Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
29JV04: 29-Jarvis -----	45	Very limited: Depth to saturated zone Flooding Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29JV04: 29-Salchaket-----	45	Very limited: Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00
29JV05: 29-Jarvis, occasionally flooded ----	45	Very limited: Depth to saturated zone Flooding Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
29-Salchaket, occasionally flooded ----	45	Very limited: Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00
29KU01: 29-Koyukuk -----	50	Somewhat limited: Slow water movement Silty surface layer dusty when dry and slippery when wet	0.94 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
29-Audrey family-----	35	Very limited: Depth to saturated zone Slow water movement	1.00 0.60	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
29KZ01: 29-Iksgiza-----	60	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Slow water movement	1.00 1.00 1.00 1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter	1.00 1.00 1.00
29-Histels -----	30	Very limited: Depth to permafrost Depth to saturated zone Ponding Excess surface organic matter Slow water movement	1.00 1.00 1.00 1.00 0.60	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29KZ02: 29-lksgiza-----	45	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Slow water movement Slope	1.00 1.00 1.00 1.00 1.00 0.16	Very limited: Depth to saturated zone Slope	1.00 0.16	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Water erosion hazard	1.00 1.00 1.00 1.00 1.00
29-Lupine family -----	35	Somewhat limited: Slow water movement	0.15	Not limited		Not limited	
29LS03: 29-Liscum -----	40	Very limited: Depth to saturated zone Flooding Ponding Excess surface organic matter Slow water movement	1.00 1.00 1.00 1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50 0.50
29-Terric Cryohemists---	40	Very limited: Depth to saturated zone Flooding Ponding Excess surface organic matter Slow water movement	1.00 1.00 1.00 1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Ponding Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50 0.50
29LU01: 29-Lupine -----	70	Very limited: Ponding Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Ponding Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Ponding Silty surface layer dusty when dry and slippery when wet	1.00 0.50
29LU02: 29-Lupine family -----	40	Somewhat limited: Slow water movement	0.15	Not limited		Not limited	
29-Beales-----	35	Somewhat limited: Slow water movement	0.15	Not limited		Not limited	
29LU03: 29-Lupine family -----	40	Somewhat limited: Slow water movement Slope	0.15 0.01	Somewhat limited: Slope	0.01	Not limited	
29-Beales-----	35	Somewhat limited: Slow water movement Slope	0.15 0.01	Somewhat limited: Slope	0.01	Not limited	

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29LU04: 29-Lupine family -----	35	Somewhat limited: Slow water movement Slope	0.15 0.01	Somewhat limited: Slope	0.01	Not limited	
29-Bohica-----	25	Somewhat limited: Slow water movement Silty surface layer dusty when dry and slippery when wet Slope	0.60 0.50 0.01	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.01	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
29-Iksgiza-----	15	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Slow water movement Slope	1.00 1.00 1.00 1.00 0.01	Very limited: Slope Depth to saturated zone	0.01 1.00	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter	1.00 1.00 1.00
29LU05: 29-Lupine -----	45	Very limited: Ponding Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Ponding Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Ponding Silty surface layer dusty when dry and slippery when wet	1.00 0.50
29-Jarvis -----	35	Very limited: Depth to saturated zone Flooding Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
29MH01: 29-Moosehead family ---	60	Very limited: Flooding Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
29-Nenana -----	30	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
29NE01: 29-Nenana -----	75	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29NE03: 29-Nenana -----	45	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
29-Donnelly -----	40	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
29PL01: 29-Eielson, rarely flooded-----	50	Very limited: Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00
29-Piledriver -----	30	Very limited: Depth to saturated zone Flooding Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
29PT01: 29-Pits, gravel -----	100	Not rated		Not rated		Not rated	
29PT02: 29-Pits, quarry-----	100	Not rated		Not rated		Not rated	
29RC01: 29-Richardson-----	55	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
29-Salchaket, occasionally flooded ----	25	Very limited: Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00
29SA01: 29-Sawmill Creek-----	85	Very limited: Ponding Slow water movement Silty surface layer dusty when dry and slippery when wet	1.00 0.60 0.50	Very limited: Ponding Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Ponding Silty surface layer dusty when dry and slippery when wet	1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29SC01: 29-Salchaket family -----	65	Very limited: Flooding Ponding Slow water movement	 1.00 1.00 0.15	Very limited: Ponding	 1.00	Very limited: Ponding	 1.00
29-Hogan family -----	30	Very limited: Depth to permafrost Depth to saturated zone Slow water movement Silty surface layer dusty when dry and slippery when wet	 1.00 1.00 0.60 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	 1.00 1.00 0.50
29SC02: 29-Salchaket-----	85	Very limited: Depth to saturated zone Flooding Ponding	 1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding	 1.00 1.00	Very limited: Depth to saturated zone Ponding	 1.00 1.00
29SC03: 29-Salchaket, occasionally flooded ----	85	Very limited: Depth to saturated zone Flooding Ponding	 1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding	 1.00 1.00	Very limited: Depth to saturated zone Ponding	 1.00 1.00
29TC01: 29-Tanacross -----	75	Very limited: Depth to permafrost Depth to saturated zone Flooding Ponding Excess surface organic matter	 1.00 1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	 1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Ponding Silty surface layer dusty when dry and slippery when wet	 1.00 1.00 1.00 1.00 1.00 0.50
29TC02: 29-Tanacross family -----	55	Very limited: Depth to saturated zone Excess surface organic matter Depth to permafrost Slow water movement Silty surface layer dusty when dry and slippery when wet	 1.00 1.00 1.00 0.60 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Depth to permafrost Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	 1.00 1.00 1.00 0.50 0.50
29-Moosehead -----	30	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	 1.00 1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29TC03: 29-Tanacross, occasionally flooded ----	50	Very limited: Depth to permafrost Depth to saturated zone Flooding Ponding Excess surface organic matter	1.00 1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 1.00 0.50
29-Histels -----	45	Very limited: Depth to permafrost Depth to saturated zone Ponding Excess surface organic matter Slow water movement	1.00 1.00 1.00 1.00 0.60	Very limited: Ponding Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 1.00 0.50
29TN01: 29-Tanana -----	80	Very limited: Depth to saturated zone Flooding Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50
29TS01: 29-Terric Sapristels -----	90	Very limited: Depth to permafrost Depth to saturated zone Ponding Excess surface organic matter Slow water movement	1.00 1.00 1.00 1.00 0.60	Very limited: Ponding Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 1.00 0.50
29VM01: 29-Volkmar -----	90	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
29WR01: 29-Water -----	45	Not rated		Not rated		Not rated	
29-Riverwash -----	40	Not rated		Not rated		Not rated	



Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31AN02: 31-Angel -----	45	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-McCloud -----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31AN03: 31-Angel -----	55	Very limited: Depth to bedrock Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50 0.16	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.16	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-McCloud -----	40	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.16	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.16	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31BR01: 31-Brigadier -----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Ester -----	40	Very limited: Depth to permafrost Depth to saturated zone Slope Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50	Very limited: Slope Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50
31BR02: 31-Brigadier -----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31BR02: 31-Ester -----	40	Very limited: Depth to permafrost Depth to saturated zone Slope Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50	Very limited: Slope Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50
31BR08: 31-Brigadier -----	45	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.16	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.16	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Manchu -----	40	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50 0.16	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50 0.16	Very limited: Depth to saturated zone Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
31BR09: 31-Brigadier -----	60	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Manchu -----	25	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50 0.16	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50 0.16	Very limited: Depth to saturated zone Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
31CH04: 31-Chatanika -----	45	Very limited: Depth to saturated zone Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.99 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.99 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31CH04: 31-Goldstream -----	40	Very limited: Depth to permafrost Depth to saturated zone Ponding Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00  0.50	Very limited: Ponding Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00  1.00 0.50
31ES01: 31-Ester -----	75	Very limited: Depth to permafrost Depth to saturated zone Slope Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00  0.50	Very limited: Slope Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00  1.00 0.50
31FA02: 31-Fairbanks -----	80	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50   0.16	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50   0.16	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31FA03: 31-Fairbanks -----	70	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31FA04: 31-Fairbanks -----	80	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31FA05: 31-Fairbanks -----	85	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31FA07: 31-Fairbanks, gullied ----	60	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50  0.16	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50  0.16	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00  0.50
31-Fairbanks, gullied, steep -----	30	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31FA11: 31-Fairbanks-----	40	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Steese-----	35	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31GD01: 31-Goldstream -----	80	Very limited: Depth to permafrost Depth to saturated zone Ponding Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00  0.50	Very limited: Ponding Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 1.00 0.50
31GD02: 31-Goldstream -----	75	Very limited: Depth to permafrost Depth to saturated zone Ponding Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00  0.50	Very limited: Ponding Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31GD03: 31-Goldstream -----	55	Very limited: Depth to permafrost Depth to saturated zone Ponding Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50	Very limited: Ponding Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 1.00 0.50
31-Histels -----	30	Very limited: Depth to permafrost Depth to saturated zone Ponding Excess surface organic matter Slow water movement	1.00 1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 1.00 0.50
31GL02: 31-Gilmore -----	70	Very limited: Depth to bedrock Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50 0.16	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.16	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31GL03: 31-Gilmore -----	75	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31GL04: 31-Gilmore -----	75	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31GL05: 31-Gilmore -----	85	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31GL06: 31-Gilmore -----	85	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31HA01: 31-Happy -----	80	Very limited: Depth to permafrost Depth to saturated zone Flooding Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50	Very limited: Ponding Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Ponding Sandy surface layer easily displaced Clayey surface layer slippery when wet	1.00 1.00 1.00 0.50 0.50
31MC01: 31-McCloud -----	85	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31MC02: 31-McCloud -----	85	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31MC03: 31-McCloud -----	50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Fairbanks-----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31MN01: 31-Minto-----	80	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31MN02: 31-Minto-----	80	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31MN03: 31-Minto-----	65	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50 0.04	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50 0.04	Very limited: Depth to saturated zone Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
31MN04: 31-Minto-----	80	Very limited: Depth to saturated zone Slope Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Slope Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
31MN05: 31-Minto-----	45	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Chatanika -----	40	Very limited: Depth to saturated zone Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.99 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.99 0.50
31MN06: 31-Minto-----	40	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Chatanika -----	35	Very limited: Depth to saturated zone Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.99 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.99 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31MN07: 31-Minto-----	45	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50  0.04	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50  0.04	Very limited: Depth to saturated zone Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
31-Chatanika -----	40	Very limited: Depth to saturated zone Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet Slope	1.00 1.00 0.99 0.50  0.04	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet Slope	1.00 1.00 0.50  0.04	Very limited: Depth to saturated zone Ponding Water erosion hazard Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.99 0.50
31RS01: 31-Rosie -----	95	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
31SA06: 31-Saulich -----	40	Very limited: Depth to saturated zone Ponding Excess surface organic matter Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00  1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet Slope	1.00 1.00 0.50  0.16	Very limited: Depth to saturated zone Ponding Excess surface organic matter Water erosion hazard Depth to permafrost	1.00 1.00 1.00  1.00 1.00
31-Minto-----	35	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50  0.16	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50  0.16	Very limited: Depth to saturated zone Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
31SA08: 31-Saulich -----	45	Very limited: Depth to saturated zone Ponding Excess surface organic matter Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00  1.00 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Excess surface organic matter Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00  1.00 0.50



Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31SA08: 31-Chatanika -----	35	Very limited: Depth to saturated zone Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.99 0.50	Very limited: Depth to saturated zone Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Depth to permafrost Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.99 0.50
31-Minto-----	10	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31SR02: 31-Strelna -----	85	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Slope Slow water movement	1.00 1.00 1.00 1.00 0.60	Very limited: Slope Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50
31SR03: 31-Strelna -----	80	Very limited: Depth to permafrost Depth to saturated zone Slope Excess surface organic matter Slow water movement	1.00 1.00 1.00 1.00 0.60	Very limited: Slope Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50
31SR04: 31-Strelna -----	85	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Slow water movement Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.60 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.50 0.04	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31SR05: 31-Strelna -----	70	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Slope Slow water movement	1.00 1.00 1.00 1.00 0.60	Very limited: Slope Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to permafrost Depth to saturated zone Excess surface organic matter Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 1.00 0.50
31-Toghotthele -----	25	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31ST01: 31-Steese-----	80	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
31ST02: 31-Steese-----	80	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.16	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.16	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31ST03: 31-Steese-----	80	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31ST04: 31-Steese-----	80	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31ST05: 31-Steese-----	80	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas		Primitive camp areas		Foot and ATV trails	
		(Alaska criteria)		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31ST06: 31-Steese-----	90	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31ST08: 31-Steese-----	50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Gilmore -----	30	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31ST09: 31-Steese-----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Gilmore -----	40	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31ST10: 31-Steese-----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Gilmore -----	40	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31ST11: 31-Steese-----	50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31ST11: 31-Gilmore -----	40	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31TG01: 31-Toghotthele -----	90	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31TG02: 31-Toghotthele -----	50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Fairbanks-----	30	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31TG03: 31-Toghotthele -----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Fairbanks-----	35	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31TG04: 31-Toghotthele -----	50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Fairbanks-----	30	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50

Table 10. Recreation: Camp and Picnic Areas, Primitive Camp Areas, Foot and ATV Trails—Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Primitive camp areas  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31TG05: 31-Toghotthele -----	50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50  0.16	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50  0.16	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
31-Fairbanks-----	30	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50  0.16	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50  0.16	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
R29WAA: 29-Water-----	95	Not rated		Not rated		Not rated	
R31WAA: 29-Water-----	98	Not rated		Not rated		Not rated	

**Table 11. Building Site Development: Structures**

(This table gives soil limitation ratings and the primary limiting factors associated with the ratings. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in his table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
28BU01: 28-Butchlake-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
28-Southpaw-----	40	Not limited		Not limited		Somewhat limited Slope	0.12
28-Salchaket family ----	15	Very limited Ponding Flooding	1.00 1.00	Very limited Ponding Flooding	1.00 1.00	Very limited Ponding Flooding	1.00 1.00
28SP01: 28-Southpaw-----	45	Not limited		Not limited		Somewhat limited Slope	0.12
28-Butchlake-----	40	Not limited		Not limited		Somewhat limited Slope	0.88
28SP02: 28-Southpaw-----	45	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
28-Butchlake-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
28TE01: 28-Terric Hemistels ----	55	Very limited Ponding Subsidence Depth to saturated zone Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00 1.00
28-Typic Aquiturbels ----	20	Very limited Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00
28-Water -----	20	Not rated		Not rated		Not rated	
29AE01: 29-Aquic Haplocrypts -	55	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.61	Very limited Flooding	1.00
29-Typic Cryaquepts ----	30	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98

Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29CH01: 29-Chena -----	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
29EL01: 29-Eielson -----	60	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29-Piledriver, occasionally flooded ---	30	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29EL02: 29-Eielson, rarely flooded-----	50	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29-Tanana-----	35	Very limited Ponding Subsidence Flooding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Flooding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Flooding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 1.00 1.00
29FU01: 29-Fubar, occasionally flooded-----	50	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.35	Very limited Flooding	1.00
29-Piledriver, occasionally flooded ---	40	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29GE01: 29-Gerstle -----	65	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
29-Moosehead -----	30	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00

Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29GE02: 29-Gerstle -----	50	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
29-Tanana-----	40	Very limited Ponding Subsidence Flooding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Flooding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Flooding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 1.00 1.00
29GE04: 29-Gerstle family -----	55	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
29-Tanacross family ----	25	Very limited Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00
29JV01: 29-Jarvis -----	75	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29JV02: 29-Jarvis, occasionally flooded-----	85	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29JV04: 29-Jarvis -----	45	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29-Salchaket-----	45	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29JV05: 29-Jarvis, occasionally flooded-----	45	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00



Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29-Salchaket, occasionally flooded ---	45	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29KU01: 29-Koyukuk -----	50	Not limited		Not limited		Not limited	
29-Audrey family-----	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
29KZ01: 29-lksgiza-----	60	Very limited Depth to permafrost Subsidence Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to permafrost Subsidence Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to permafrost Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 0.88
29-Histels -----	30	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00 1.00
29KZ02: 29-lksgiza-----	45	Very limited Depth to permafrost Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 0.16	Very limited Depth to permafrost Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 0.16	Very limited Depth to permafrost Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 1.00
29-Lupine family -----	35	Not limited		Not limited		Not limited	
29LS03: 29-Liscum -----	40	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29-Terric Cryohemists-----	40	Very limited Ponding Subsidence Flooding Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Flooding Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Flooding Depth to saturated zone	1.00 1.00 1.00 1.00
29LU01: 29-Lupine -----	70	Very limited Ponding	1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
29LU02: 29-Lupine family -----	40	Not limited		Not limited		Not limited	
29-Beales-----	35	Not limited		Not limited		Not limited	

Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29LU03: 29-Lupine family -----	40	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
29-Beales -----	35	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
29LU04: 29-Lupine family -----	35	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
29-Bohica -----	25	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
29-Iksgiza -----	15	Very limited Depth to permafrost Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 0.01	Very limited Depth to permafrost Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 0.01	Very limited Depth to permafrost Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 1.00
29LU05: 29-Lupine -----	45	Very limited Ponding	1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
29-Jarvis -----	35	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29MH01: 29-Moosehead family ---	60	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding Slope	1.00 0.12
29-Nenana -----	30	Not limited		Not limited		Somewhat limited Slope	0.50
29NE01: 29-Nenana -----	75	Not limited		Not limited		Not limited	
29NE03: 29-Nenana -----	45	Not limited		Not limited		Not limited	
29-Donnelly -----	40	Not limited		Not limited		Not limited	
29PL01: 29-Eielson, rarely flooded -----	50	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29-Piledriver -----	30	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00

Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29PT01: 29-Pits, gravel -----	100	Not rated		Not rated		Not rated	
29PT02: 29-Pits, quarry -----	100	Not rated		Not rated		Not rated	
29RC01: 29-Richardson -----	55	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
29-Salchaket, occasionally flooded ---	25	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29SA01: 29-Sawmill Creek -----	85	Very limited Ponding	1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
29SC01: 29-Salchaket family -----	65	Very limited Ponding Flooding	1.00 1.00	Very limited Ponding Flooding	1.00 1.00	Very limited Ponding Flooding	1.00 1.00
29-Hogan family -----	30	Very limited Depth to permafrost Subsidence Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to permafrost Subsidence Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to permafrost Subsidence Depth to saturated zone	1.00 1.00 1.00
29SC02: 29-Salchaket -----	85	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29SC03: 29-Salchaket, occasionally flooded ---	85	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
29TC01: 29-Tanacross -----	75	Very limited Depth to permafrost Ponding Subsidence Flooding Depth to saturated zone	1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Flooding Depth to saturated zone	1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Flooding Depth to saturated zone	1.00 1.00 1.00 1.00 1.00

Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29TC02: 29-Tanacross family -----	55	Very limited Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00
29-Moosehead -----	30	Very limited Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00 1.00
29TC03: 29-Tanacross, occasionally flooded ---	50	Very limited Depth to permafrost Ponding Subsidence Flooding Depth to saturated zone	1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Flooding Depth to saturated zone	1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Flooding Depth to saturated zone	1.00 1.00 1.00 1.00 1.00
29-Histels -----	45	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00 1.00
29TN01: 29-Tanana -----	80	Very limited Ponding Subsidence Flooding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Flooding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Flooding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 1.00 1.00
29TS01: 29-Terric Sapristels -----	90	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00 1.00
29VM01: 29-Volkmar -----	90	Very limited Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00 1.00
29WR01: 29-Water -----	45	Not rated		Not rated		Not rated	
29-Riverwash -----	40	Not rated		Not rated		Not rated	

Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31AN02: 31-Angel -----	45	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope Depth to soft	1.00 1.00
31-McCloud -----	45	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.54	Very limited Slope	1.00
31AN03: 31-Angel -----	55	Somewhat limited Depth to soft bedrock Slope	0.50 0.16	Very limited Depth to soft bedrock Slope	1.00 0.16	Very limited Depth to soft bedrock Slope	1.00 1.00
31-McCloud -----	40	Somewhat limited Slope	0.16	Somewhat limited Depth to soft bedrock Slope	0.54 0.16	Very limited Slope	1.00
31BR01: 31-Brigadier -----	45	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope	1.00
31-Ester -----	40	Very limited Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to permafrost Slope Depth to saturated zone Depth to soft bedrock	1.00 1.00 1.00 0.99	Very limited Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00
31BR02: 31-Brigadier -----	45	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope	1.00
31-Ester -----	40	Very limited Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to permafrost Slope Depth to saturated zone Depth to soft bedrock	1.00 1.00 1.00 0.99	Very limited Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00
31BR08: 31-Brigadier -----	45	Somewhat limited Slope	0.16	Very limited Depth to soft bedrock Slope	1.00 0.16	Very limited Slope	1.00
31-Manchu -----	40	Very limited Depth to saturated zone Slope	1.00 0.16	Very limited Depth to saturated zone Slope	1.00 0.16	Very limited Depth to saturated zone Slope	1.00 1.00

Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31BR09: 31-Brigadier -----	60	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope	1.00
31-Manchu -----	25	Very limited Depth to saturated zone Slope	1.00 0.16	Very limited Depth to saturated zone Slope	1.00 0.16	Very limited Depth to saturated zone Slope	1.00 1.00
31CH04: 31-Chatanika -----	45	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 0.99	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 0.99	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 0.99
31-Goldstream -----	40	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00
31ES01: 31-Ester -----	75	Very limited Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to permafrost Slope Depth to saturated zone Depth to soft bedrock	1.00 1.00 1.00 0.99	Very limited Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00
31FA02: 31-Fairbanks -----	80	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
31FA03: 31-Fairbanks -----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31FA04: 31-Fairbanks -----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31FA05: 31-Fairbanks -----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31FA07: 31-Fairbanks, gullied ----	60	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
31-Fairbanks, gullied, steep -----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31FA11: 31-Fairbanks-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31-Steese-----	35	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.20	Very limited Slope	1.00
31GD01: 31-Goldstream -----	80	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00
31GD02: 31-Goldstream -----	75	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Slope Depth to saturated zone	1.00 1.00 1.00 0.12 1.00
31GD03: 31-Goldstream -----	55	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00
31-Histels-----	30	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00 1.00
31GL02: 31-Gilmore -----	70	Somewhat limited Depth to soft bedrock Slope	0.50 0.16	Very limited Depth to soft bedrock Slope	1.00 0.16	Very limited Depth to soft bedrock Slope	1.00 1.00
31GL03: 31-Gilmore -----	75	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
31GL04: 31-Gilmore -----	75	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
31GL05: 31-Gilmore -----	85	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00

Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31GL06: 31-Gilmore -----	85	Very limited Slope Depth to soft bedrock	1.00  0.50	Very limited Slope Depth to soft bedrock	1.00  1.00	Very limited Slope Depth to soft bedrock	1.00  1.00
31HA01: 31-Happy -----	80	Very limited Depth to permafrost Ponding Subsidence Flooding Depth to saturated zone	1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Flooding Depth to saturated zone	1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Subsidence Flooding Depth to saturated zone	1.00 1.00 1.00 1.00 1.00
31MC01: 31-McCloud -----	85	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.54	Very limited Slope	1.00
31MC02: 31-McCloud -----	85	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.54	Very limited Slope	1.00
31MC03: 31-McCloud -----	50	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.54	Very limited Slope	1.00
31-Fairbanks-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31MN01: 31-Minto-----	80	Very limited Subsidence Depth to saturated zone	1.00 1.00	Very limited Subsidence Depth to saturated zone	1.00 1.00	Very limited Subsidence Depth to saturated zone	1.00 1.00
31MN02: 31-Minto-----	80	Very limited Subsidence Depth to saturated zone	1.00 1.00	Very limited Subsidence Depth to saturated zone	1.00 1.00	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 0.12
31MN03: 31-Minto-----	65	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 0.04	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 0.04	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 1.00
31MN04: 31-Minto-----	80	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Slope Subsidence Depth to saturated zone	1.00 1.00 1.00



Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31MN05: 31-Minto-----	45	Very limited Subsidence Depth to saturated zone	1.00 1.00	Very limited Subsidence Depth to saturated zone	1.00 1.00	Very limited Subsidence Depth to saturated zone	1.00 1.00
31-Chatanika -----	40	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 0.99	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 0.99	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 0.99
31MN06: 31-Minto-----	40	Very limited Subsidence Depth to saturated zone	1.00 1.00	Very limited Subsidence Depth to saturated zone	1.00 1.00	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 0.12
31-Chatanika -----	35	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 0.99	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 0.99	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost Slope	1.00 1.00 1.00 0.99 0.12
31MN07: 31-Minto-----	45	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 0.04	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 0.04	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 1.00
31-Chatanika -----	40	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost Slope	1.00 1.00 1.00 0.99 0.04	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost Slope	1.00 1.00 1.00 0.99 0.04	Very limited Ponding Subsidence Depth to saturated zone Slope Depth to permafrost	1.00 1.00 1.00 1.00 0.99
31RS01: 31-Rosie -----	95	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.68	Very limited Slope	1.00
31SA06: 31-Saulich -----	40	Very limited Ponding Subsidence Depth to saturated zone Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Organic matter content Slope	1.00 1.00 1.00 1.00 1.00
31-Minto-----	35	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 0.16	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 0.16	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 1.00 1.00

Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31SA08: 31-Saulich -----	45	Very limited Ponding Subsidence Depth to saturated zone Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00 1.00
31-Chatanika -----	35	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 1.00 0.99	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost	1.00 1.00 1.00 1.00 0.99	Very limited Ponding Subsidence Depth to saturated zone Depth to permafrost Slope	1.00 1.00 1.00 1.00 0.12
31-Minto-----	10	Very limited Subsidence Depth to saturated zone	1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone	1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Slope	1.00 1.00 0.12
31SR02: 31-Strelna -----	85	Very limited Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00 1.00
31SR03: 31-Strelna -----	80	Very limited Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00 1.00
31SR04: 31-Strelna -----	85	Very limited Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00 0.04	Very limited Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00 0.04	Very limited Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00 1.00
31SR05: 31-Strelna -----	70	Very limited Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00 1.00	Very limited Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00 1.00
31-Toghotthele -----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31ST01: 31-Steese-----	80	Not limited		Somewhat limited Depth to soft bedrock	0.20	Somewhat limited Slope	0.12
31ST02: 31-Steese-----	80	Somewhat limited Slope	0.16	Somewhat limited Depth to soft bedrock Slope	0.20 0.16	Very limited Slope	1.00

Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31ST03: 31-Steese-----	80	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.20	Very limited Slope	1.00
31ST04: 31-Steese-----	80	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.20	Very limited Slope	1.00
31ST05: 31-Steese-----	80	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.20	Very limited Slope	1.00
31ST06: 31-Steese-----	90	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.20	Very limited Slope	1.00
31ST08: 31-Steese-----	50	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.20	Very limited Slope	1.00
31-Gilmore -----	30	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
31ST09: 31-Steese-----	45	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.20	Very limited Slope	1.00
31-Gilmore -----	40	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
31ST10: 31-Steese-----	45	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.20	Very limited Slope	1.00
31-Gilmore -----	40	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
31ST11: 31-Steese-----	50	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.20	Very limited Slope	1.00
31-Gilmore -----	40	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Slope Depth to soft bedrock	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00

Table 11. Building Site Development: Structures—Continued

Map symbol and soil name	Pct of map unit	Dwellings without basements  (Standard criteria)		Dwellings with basements  (Standard criteria)		Small commercial buildings  (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31TG01: 31-Toghotthele -----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31TG02: 31-Toghotthele -----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31-Fairbanks-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31TG03: 31-Toghotthele -----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31-Fairbanks-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31TG04: 31-Toghotthele -----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31-Fairbanks-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
31TG05: 31-Toghotthele -----	50	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
31-Fairbanks-----	30	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
R29WAA: 29-Water -----	95	Not rated		Not rated		Not rated	
R31WAA: 29-Water -----	98	Not rated		Not rated		Not rated	

**Table 12. Sanitary Facilities: Sewage Disposal**

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
28BU01: 28-Butchlake-----	40	Very limited Slope Seepage, bottom layer	 1.00 1.00	Very limited Slope Seepage Large stones content	 1.00 1.00 0.01
28-Southpaw-----	40	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.68
28-Salchaket family -----	15	Very limited Ponding Flooding Slow water movement	1.00 0.40 0.32	Very limited Ponding Seepage Flooding Slope	1.00 1.00 0.40 0.08
28SP01: 28-Southpaw-----	45	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.68
28-Butchlake-----	40	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope Large stones content	1.00 1.00 0.01
28SP02: 28-Southpaw-----	45	Very limited Seepage, bottom layer Slope	1.00 0.16	Very limited Seepage Slope	1.00 1.00
28-Butchlake-----	40	Very limited Slope Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope Large stones content	1.00 1.00 0.01
28TE01: 28-Terric Hemistels -----	55	Very limited Ponding Depth to saturated zone Subsidence Depth to permafrost	1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Depth to permafrost Organic matter content Seepage	1.00 1.00 1.00 1.00 0.50
28-Typic Aquiturbels-----	20	Very limited Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to permafrost Ponding Depth to saturated zone Seepage	1.00 1.00 1.00 0.50
28-Water -----	20	Not rated		Not rated	

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
29AE01: 29-Aquic Haplocrypts -----	55	Very limited Filtering capacity Seepage, bottom layer Depth to saturated zone Flooding	 1.00 1.00 0.99 0.40	Very limited Seepage Depth to saturated zone Flooding	 1.00 0.71 0.40
29-Typic Cryaquepts -----	30	Very limited Depth to saturated zone Slow water movement Flooding	 1.00 0.46 0.40	Very limited Depth to saturated zone Seepage Flooding	 1.00 0.53 0.40
29CH01: 29-Chena -----	90	Very limited Filtering capacity Seepage, bottom layer Flooding	 1.00 1.00 0.40	Very limited Seepage Flooding	 1.00 0.40
29EL01: 29-Eielson -----	60	Very limited Flooding Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 1.00 0.46	Very limited Ponding Flooding Depth to saturated zone Seepage	 1.00 1.00 1.00 0.53
29-Piledriver, occasionally flooded -----	30	Very limited Flooding Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 1.00 0.46	Very limited Ponding Flooding Seepage Depth to saturated zone	 1.00 1.00 1.00 1.00
29EL02: 29-Eielson, rarely flooded ----	50	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement Flooding	 1.00 1.00 1.00 0.46 0.40	Very limited Ponding Depth to saturated zone Seepage Flooding	 1.00 1.00 0.53 0.40
29-Tanana -----	35	Very limited Ponding Depth to saturated zone Subsidence Depth to permafrost Slow water movement	 1.00 1.00 1.00 1.00 0.46	Very limited Ponding Depth to saturated zone Depth to permafrost Seepage Flooding	 1.00 1.00 1.00 0.53 0.40
29FU01: 29-Fubar, occasionally flooded -----	50	Very limited Flooding Filtering capacity Seepage, bottom layer Depth to saturated zone	 1.00 1.00 1.00 0.84	Very limited Flooding Seepage Depth to saturated zone	 1.00 1.00 0.17

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
29FU01: 29-Piledriver, occasionally flooded-----	40	Very limited Flooding Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 1.00 0.46	Very limited Ponding Flooding Seepage Depth to saturated zone	 1.00 1.00 1.00 1.00
29GE01: 29-Gerstle -----	65	Very limited Ponding Depth to saturated zone Seepage, bottom layer Filtering capacity	 1.00 1.00 1.00 1.00	Very limited Ponding Seepage Depth to saturated zone	 1.00 1.00 1.00
29-Moosehead -----	30	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 0.32	Very limited Ponding Depth to saturated zone Seepage	 1.00 1.00 1.00
29GE02: 29-Gerstle -----	50	Very limited Ponding Depth to saturated zone Seepage, bottom layer Filtering capacity	 1.00 1.00 1.00 1.00	Very limited Ponding Seepage Depth to saturated zone	 1.00 1.00 1.00
29-Tanana-----	40	Very limited Ponding Depth to saturated zone Subsidence Depth to permafrost Slow water movement	 1.00 1.00 1.00 1.00 0.46	Very limited Ponding Depth to saturated zone Depth to permafrost Seepage Flooding	 1.00 1.00 1.00 0.53 0.40
29GE04: 29-Gerstle family -----	55	Very limited Flooding Depth to saturated zone Seepage, bottom layer	 1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	 1.00 1.00 1.00
29-Tanacross family -----	25	Very limited Depth to saturated zone Subsidence Depth to permafrost	 1.00 1.00 1.00	Very limited Depth to saturated zone Depth to permafrost Organic matter content Seepage	 1.00 1.00 1.00 0.50
29JV01: 29-Jarvis -----	75	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement Flooding	 1.00 1.00 1.00 0.46 0.40	Very limited Ponding Seepage Depth to saturated zone Flooding	 1.00 1.00 1.00 0.40

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
29JV02: 29-Jarvis, occasionally flooded-----	85	Very limited Flooding Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 1.00 0.46	Very limited Ponding Flooding Seepage Depth to saturated zone	 1.00 1.00 1.00 1.00
29JV04: 29-Jarvis -----	45	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement Flooding	 1.00 1.00 1.00 0.46 0.40	Very limited Ponding Seepage Depth to saturated zone Flooding	 1.00 1.00 1.00 0.40
29-Salchaket-----	45	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement Flooding	 1.00 1.00 1.00 0.46 0.40	Very limited Ponding Seepage Depth to saturated zone Flooding	 1.00 1.00 1.00 0.40
29JV05: 29-Jarvis, occasionally flooded-----	45	Very limited Flooding Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 1.00 0.46	Very limited Ponding Flooding Seepage Depth to saturated zone	 1.00 1.00 1.00 1.00
29-Salchaket, occasionally flooded-----	45	Very limited Flooding Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 1.00 0.46	Very limited Ponding Flooding Seepage Depth to saturated zone	 1.00 1.00 1.00 1.00
29KU01: 29-Koyukuk -----	50	Very limited Slow water movement	 1.00	Not limited	
29-Audrey family-----	35	Very limited Depth to saturated zone Slow water movement	 1.00 1.00	Very limited Depth to saturated zone Seepage	 1.00 0.02
29KZ01: 29-Iksgiza-----	60	Very limited Depth to permafrost Depth to saturated zone Subsidence	 1.00 1.00 1.00	Very limited Depth to permafrost Depth to saturated zone Slope Organic matter content	 1.00 1.00 1.00 1.00



Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
29KZ01: 29-Histels -----	30	Very limited Depth to permafrost Ponding Depth to saturated zone Slow water movement Subsidence	 1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Depth to saturated zone Organic matter content Seepage	 1.00 1.00 1.00 1.00 0.50
29KZ02: 29-lksgiza -----	45	Very limited Depth to permafrost Depth to saturated zone Subsidence Slope	 1.00 1.00 1.00 0.16	Very limited Depth to permafrost Depth to saturated zone Slope Organic matter content	 1.00 1.00 1.00 1.00
29-Lupine family -----	35	Very limited Seepage, bottom layer	 1.00	Very limited Seepage	 1.00
29LS03: 29-Liscum -----	40	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement Flooding	 1.00 1.00 1.00 0.46 0.40	Very limited Ponding Depth to saturated zone Organic matter content Seepage Flooding	 1.00 1.00 1.00 0.53 0.40
29-Terric Cryochemists -----	40	Very limited Ponding Depth to saturated zone Subsidence Filtering capacity Seepage, bottom layer	 1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Seepage Organic matter content Flooding	 1.00 1.00 1.00 1.00 0.40
29LU01: 29-Lupine -----	70	Very limited Ponding Seepage, bottom layer Filtering capacity	 1.00 1.00 1.00	Very limited Ponding Seepage	 1.00 1.00
29LU02: 29-Lupine family -----	40	Very limited Seepage, bottom layer	 1.00	Very limited Seepage	 1.00
29-Beales -----	35	Very limited Seepage, bottom layer	 1.00	Very limited Seepage	 1.00
29LU03: 29-Lupine family -----	40	Very limited Seepage, bottom layer Slope	 1.00 0.01	Very limited Seepage Slope	 1.00 1.00
29-Beales -----	35	Very limited Seepage, bottom layer Slope	 1.00 0.01	Very limited Seepage Slope	 1.00 1.00

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
29LU04: 29-Lupine family -----	35	Very limited Seepage, bottom layer Slope	1.00 0.01	Very limited Seepage Slope	1.00 1.00
29-Bohica-----	25	Very limited Seepage, bottom layer Slow water movement Slope	1.00 1.00 0.01	Very limited Seepage Slope	1.00 1.00
29-Iksgiza-----	15	Very limited Depth to permafrost Depth to saturated zone Subsidence Slope	1.00 1.00 1.00 0.01	Very limited Depth to permafrost Depth to saturated zone Slope Organic matter content	1.00 1.00 1.00 1.00
29LU05: 29-Lupine-----	45	Very limited Ponding Seepage, bottom layer Filtering capacity	1.00 1.00 1.00	Very limited Ponding Seepage	1.00 1.00
29-Jarvis -----	35	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement Flooding	1.00 1.00 1.00 0.46 0.40	Very limited Ponding Seepage Depth to saturated zone Flooding	1.00 1.00 1.00 0.40
29MH01: 29-Moosehead family -----	60	Very limited Seepage, bottom layer Slow water movement Flooding	1.00 0.99 0.40	Very limited Seepage Slope Flooding	1.00 0.68 0.40
29-Nenana -----	30	Very limited Seepage, bottom layer Filtering capacity	1.00 1.00	Very limited Seepage Slope	1.00 0.92
29NE01: 29-Nenana -----	75	Very limited Seepage, bottom layer Filtering capacity	1.00 1.00	Very limited Seepage	1.00
29NE03: 29-Nenana -----	45	Very limited Seepage, bottom layer Filtering capacity	1.00 1.00	Very limited Seepage	1.00
29-Donnelly -----	40	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage	1.00

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
29PL01: 29-Eielson, rarely flooded ----	50	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement Flooding	 1.00 1.00 1.00 0.46 0.40	Very limited Ponding Depth to saturated zone Seepage Flooding	 1.00 1.00 0.53 0.40
29-Piledriver -----	30	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement Flooding	 1.00 1.00 1.00 0.46 0.40	Very limited Ponding Seepage Depth to saturated zone Flooding	 1.00 1.00 1.00 0.40
29PT01: 29-Pits, gravel -----	100	Not rated		Not rated	
29PT02: 29-Pits, quarry -----	100	Not rated		Not rated	
29RC01: 29-Richardson -----	55	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 0.46	Very limited Ponding Depth to saturated zone Seepage	 1.00 1.00 0.53
29-Salchaket, occasionally flooded -----	25	Very limited Flooding Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 1.00 0.46	Very limited Ponding Flooding Seepage Depth to saturated zone	 1.00 1.00 1.00 1.00
29SA01: 29-Sawmill Creek -----	85	Very limited Ponding Seepage, bottom layer	 1.00 1.00	Very limited Ponding Seepage	 1.00 1.00
29SC01: 29-Salchaket family -----	65	Very limited Ponding Seepage, bottom layer Flooding	 1.00 1.00 0.40	Very limited Ponding Seepage Flooding	 1.00 1.00 0.40
29-Hogan family -----	30	Very limited Depth to permafrost Depth to saturated zone Subsidence	 1.00 1.00 1.00	Very limited Depth to permafrost Seepage Depth to saturated zone	 1.00 1.00 1.00

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
29SC02: 29-Salchaket-----	85	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement Flooding	 1.00 1.00 1.00 0.46 0.40	Very limited Ponding Seepage Depth to saturated zone Flooding	 1.00 1.00 1.00 0.40
29SC03: 29-Salchaket, occasionally flooded-----	85	Very limited Flooding Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 1.00 0.46	Very limited Ponding Flooding Seepage Depth to saturated zone	 1.00 1.00 1.00 1.00
29TC01: 29-Tanacross-----	75	Very limited Depth to permafrost Ponding Depth to saturated zone Subsidence Flooding	 1.00 1.00 1.00 1.00 0.40	Very limited Depth to permafrost Ponding Depth to saturated zone Organic matter content Seepage	 1.00 1.00 1.00 1.00 0.53
29TC02: 29-Tanacross family-----	55	Very limited Depth to saturated zone Subsidence Depth to permafrost	 1.00 1.00 1.00	Very limited Depth to saturated zone Depth to permafrost Organic matter content Seepage	 1.00 1.00 1.00 0.50
29-Moosehead-----	30	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 0.32	Very limited Ponding Depth to saturated zone Seepage	 1.00 1.00 1.00
29TC03: 29-Tanacross, occasionally flooded-----	50	Very limited Depth to permafrost Flooding Ponding Depth to saturated zone Subsidence	 1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Flooding Depth to saturated zone Organic matter content	 1.00 1.00 1.00 1.00 1.00
29-Histels-----	45	Very limited Depth to permafrost Ponding Depth to saturated zone Slow water movement Subsidence	 1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Depth to saturated zone Organic matter content Seepage	 1.00 1.00 1.00 1.00 0.50

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
29TN01: 29-Tanana-----	80	Very limited Ponding Depth to saturated zone Subsidence Depth to permafrost Slow water movement	 1.00 1.00 1.00 1.00 0.46	Very limited Ponding Depth to saturated zone Depth to permafrost Seepage Flooding	 1.00 1.00 1.00 0.53 0.40
29TS01: 29-Terric Sapristels-----	90	Very limited Depth to permafrost Ponding Depth to saturated zone Slow water movement Subsidence	 1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Depth to saturated zone Organic matter content Seepage	 1.00 1.00 1.00 1.00 0.50
29VM01: 29-Volkmar-----	90	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	 1.00 1.00 1.00 0.82	Very limited Ponding Seepage Depth to saturated zone Slope	 1.00 1.00 1.00 1.00 0.08
29WR01: 29-Water-----	45	Not rated		Not rated	
29-Riverwash-----	40	Not rated		Not rated	
31AN02: 31-Angel-----	45	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage Organic matter content	 1.00 1.00 1.00 1.00
31-McCloud-----	45	Very limited Depth to bedrock Slope Slow water movement	 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Organic matter content Seepage	 1.00 1.00 1.00 0.53
31AN03: 31-Angel-----	55	Very limited Depth to bedrock Seepage, bottom layer Slope	 1.00 1.00 0.16	Very limited Depth to soft bedrock Seepage Slope Organic matter content	 1.00 1.00 1.00 1.00
31-McCloud-----	40	Very limited Depth to bedrock Slow water movement Slope	 1.00 0.46 0.16	Very limited Depth to soft bedrock Slope Organic matter content Seepage	 1.00 1.00 1.00 0.53

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31BR01: 31-Brigadier -----	45	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31-Ester -----	40	Very limited Depth to permafrost Depth to bedrock Depth to saturated zone Slope	 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Depth to soft bedrock Slope Depth to saturated zone Organic matter content	 1.00 1.00 1.00 1.00 1.00
31BR02: 31-Brigadier -----	45	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31-Ester -----	40	Very limited Depth to permafrost Depth to bedrock Depth to saturated zone Slope	 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Depth to soft bedrock Slope Depth to saturated zone Organic matter content	 1.00 1.00 1.00 1.00 1.00
31BR08: 31-Brigadier -----	45	Very limited Depth to bedrock Seepage, bottom layer Slope	 1.00 1.00 0.16	Very limited Depth to soft bedrock Seepage Slope	 1.00 1.00 1.00
31-Manchu -----	40	Very limited Depth to saturated zone Seepage, bottom layer Depth to bedrock Slow water movement Slope	 1.00 1.00 1.00 0.46 0.16	Very limited Seepage Depth to saturated zone Slope Depth to soft bedrock	 1.00 1.00 1.00 0.99
31BR09: 31-Brigadier -----	60	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31-Manchu -----	25	Very limited Depth to saturated zone Seepage, bottom layer Depth to bedrock Slow water movement Slope	 1.00 1.00 1.00 0.46 0.16	Very limited Seepage Depth to saturated zone Slope Depth to soft bedrock	 1.00 1.00 1.00 0.99
31CH04: 31-Chatanika -----	45	Very limited Ponding Depth to saturated zone Subsidence Depth to permafrost	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Depth to permafrost Seepage	 1.00 1.00 1.00 0.50

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31CH04: 31-Goldstream -----	40	Very limited Depth to permafrost Ponding Depth to saturated zone Subsidence	 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Depth to saturated zone Organic matter content Seepage	 1.00 1.00 1.00 1.00 0.53
31ES01: 31-Ester -----	75	Very limited Depth to permafrost Depth to bedrock Depth to saturated zone Slope	 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Depth to soft bedrock Slope Depth to saturated zone Organic matter content	 1.00 1.00 1.00 1.00 1.00
31FA02: 31-Fairbanks -----	80	Somewhat limited Slow water movement Slope	 0.46 0.16	Very limited Slope Seepage	 1.00 0.53
31FA03: 31-Fairbanks -----	70	Very limited Slope Slow water movement	 1.00 0.46	Very limited Slope Seepage	 1.00 0.53
31FA04: 31-Fairbanks -----	80	Very limited Slope Slow water movement	 1.00 0.46	Very limited Slope Seepage	 1.00 0.53
31FA05: 31-Fairbanks -----	85	Very limited Slope Slow water movement	 1.00 0.46	Very limited Slope Seepage	 1.00 0.53
31FA07: 31-Fairbanks, gullied -----	60	Somewhat limited Slow water movement Slope	 0.46 0.16	Very limited Slope Seepage	 1.00 0.53
31-Fairbanks, gullied, steep -	30	Very limited Slope Slow water movement	 1.00 0.46	Very limited Slope Seepage	 1.00 0.53
31FA11: 31-Fairbanks -----	40	Very limited Slope Slow water movement	 1.00 0.46	Very limited Slope Seepage	 1.00 0.53
31-Steese -----	35	Very limited Slope Seepage, bottom layer Depth to bedrock Slow water movement	 1.00 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31GD01: 31-Goldstream -----	80	Very limited Depth to permafrost Ponding Depth to saturated zone Subsidence	 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Depth to saturated zone Organic matter content Seepage	 1.00 1.00 1.00 1.00 0.53
31GD02: 31-Goldstream -----	75	Very limited Depth to permafrost Ponding Depth to saturated zone Subsidence	 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Depth to saturated zone Organic matter content Slope	 1.00 1.00 1.00 1.00 0.68
31GD03: 31-Goldstream -----	55	Very limited Depth to permafrost Ponding Depth to saturated zone Subsidence	 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Depth to saturated zone Organic matter content Seepage	 1.00 1.00 1.00 1.00 0.53
31-Histels -----	30	Very limited Depth to permafrost Ponding Depth to saturated zone Subsidence Slow water movement	 1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Depth to saturated zone Organic matter content Seepage	 1.00 1.00 1.00 1.00 0.50
31GL02: 31-Gilmore -----	70	Very limited Depth to bedrock Seepage, bottom layer Slope	 1.00 1.00 0.16	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31GL03: 31-Gilmore -----	75	Very limited Depth to bedrock Seepage, bottom layer Slope	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31GL04: 31-Gilmore -----	75	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31GL05: 31-Gilmore -----	85	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00



Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31GL06: 31-Gilmore -----	85	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31HA01: 31-Happy -----	80	Very limited Depth to permafrost Flooding Ponding Depth to saturated zone Subsidence	 1.00 1.00 1.00 1.00 1.00	Very limited Depth to permafrost Ponding Flooding Depth to saturated zone Seepage	 1.00 1.00 1.00 1.00 0.50
31MC01: 31-McCloud -----	85	Very limited Depth to bedrock Slope Slow water movement	 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Organic matter content Seepage	 1.00 1.00 1.00 0.53
31MC02: 31-McCloud -----	85	Very limited Depth to bedrock Slope Slow water movement	 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Organic matter content Seepage	 1.00 1.00 1.00 0.53
31MC03: 31-McCloud -----	50	Very limited Depth to bedrock Slope Slow water movement	 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Organic matter content Seepage	 1.00 1.00 1.00 0.53
31-Fairbanks-----	45	Very limited Slope Slow water movement	 1.00 0.46	Very limited Slope Seepage	 1.00 0.53
31MN01: 31-Minto-----	80	Very limited Depth to saturated zone Subsidence Slow water movement	 1.00 1.00 0.46	Very limited Depth to saturated zone Seepage	 1.00 0.53
31MN02: 31-Minto-----	80	Very limited Depth to saturated zone Subsidence Slow water movement	 1.00 1.00 0.46	Very limited Depth to saturated zone Slope Seepage	 1.00 0.68 0.53
31MN03: 31-Minto-----	65	Very limited Depth to saturated zone Subsidence Slow water movement Slope	 1.00 1.00 0.46 0.04	Very limited Slope Depth to saturated zone Seepage	 1.00 1.00 0.53

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31MN04: 31-Minto-----	80	Very limited Depth to saturated zone Subsidence Slope Slow water movement	 1.00 1.00 1.00 0.46	Very limited Slope Depth to saturated zone Seepage	 1.00 1.00 0.53
31MN05: 31-Minto-----	45	Very limited Depth to saturated zone Subsidence Slow water movement	 1.00 1.00 0.46	Very limited Depth to saturated zone Seepage	 1.00 0.53
31-Chatanika -----	40	Very limited Ponding Depth to saturated zone Subsidence Depth to permafrost	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Depth to permafrost Seepage	 1.00 1.00 1.00 0.50
31MN06: 31-Minto-----	40	Very limited Depth to saturated zone Subsidence Slow water movement	 1.00 1.00 0.46	Very limited Depth to saturated zone Slope Seepage	 1.00 0.68 0.53
31-Chatanika -----	35	Very limited Ponding Depth to saturated zone Subsidence Depth to permafrost	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Depth to permafrost Slope Seepage	 1.00 1.00 1.00 0.68 0.50
31MN07: 31-Minto-----	45	Very limited Depth to saturated zone Subsidence Slow water movement Slope	 1.00 1.00 0.46 0.04	Very limited Slope Depth to saturated zone Seepage	 1.00 1.00 0.53
31-Chatanika -----	40	Very limited Ponding Depth to saturated zone Subsidence Depth to permafrost Slope	 1.00 1.00 1.00 1.00 0.04	Very limited Ponding Slope Depth to saturated zone Depth to permafrost Seepage	 1.00 1.00 1.00 1.00 0.50
31RS01: 31-Rosie -----	95	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31SA06: 31-Saulich -----	40	Very limited Ponding Depth to saturated zone Subsidence Depth to permafrost Slope	 1.00 1.00 1.00 1.00 0.16	Very limited Ponding Slope Seepage Depth to saturated zone Depth to permafrost	 1.00 1.00 1.00 1.00 1.00
31-Minto-----	35	Very limited Depth to saturated zone Subsidence Slow water movement Slope	 1.00 1.00 0.46 0.16	Very limited Slope Depth to saturated zone Seepage	 1.00 1.00 0.53
31SA08: 31-Saulich -----	45	Very limited Ponding Depth to saturated zone Subsidence Depth to permafrost	 1.00 1.00 1.00 1.00	Very limited Ponding Seepage Depth to saturated zone Depth to permafrost Organic matter content	 1.00 1.00 1.00 1.00 1.00
31-Chatanika -----	35	Very limited Ponding Depth to saturated zone Subsidence Depth to permafrost	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Depth to permafrost Slope Seepage	 1.00 1.00 1.00 0.68 0.50
31-Minto-----	10	Very limited Depth to saturated zone Subsidence Slow water movement	 1.00 1.00 0.46	Very limited Depth to saturated zone Slope Seepage	 1.00 0.68 0.53
31SR02: 31-Strelna -----	85	Very limited Depth to permafrost Depth to saturated zone Slope	 1.00 1.00 1.00	Very limited Depth to permafrost Slope Depth to saturated zone	 1.00 1.00 1.00
31SR03: 31-Strelna -----	80	Very limited Depth to permafrost Depth to saturated zone Slope	 1.00 1.00 1.00	Very limited Depth to permafrost Slope Depth to saturated zone	 1.00 1.00 1.00
31SR04: 31-Strelna -----	85	Very limited Depth to permafrost Depth to saturated zone Slope	 1.00 1.00 0.04	Very limited Depth to permafrost Slope Depth to saturated zone	 1.00 1.00 1.00
31SR05: 31-Strelna -----	70	Very limited Depth to permafrost Depth to saturated zone Slope	 1.00 1.00 1.00	Very limited Depth to permafrost Slope Depth to saturated zone	 1.00 1.00 1.00

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31SR05: 31-Toghotthele -----	25	Very limited Seepage, bottom layer Slope Slow water movement	 1.00 1.00 0.46	Very limited Slope Seepage	 1.00 1.00
31ST01: 31-Steese-----	80	Very limited Seepage, bottom layer Depth to bedrock Slow water movement	 1.00 1.00 0.46	Very limited Depth to soft bedrock Seepage Slope	 1.00 1.00 0.68
31ST02: 31-Steese-----	80	Very limited Seepage, bottom layer Depth to bedrock Slow water movement Slope	 1.00 1.00 0.46 0.16	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31ST03: 31-Steese-----	80	Very limited Seepage, bottom layer Depth to bedrock Slope Slow water movement	 1.00 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31ST04: 31-Steese-----	80	Very limited Slope Seepage, bottom layer Depth to bedrock Slow water movement	 1.00 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31ST05: 31-Steese-----	80	Very limited Slope Seepage, bottom layer Depth to bedrock Slow water movement	 1.00 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31ST06: 31-Steese-----	90	Very limited Slope Seepage, bottom layer Depth to bedrock Slow water movement	 1.00 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31ST08: 31-Steese-----	50	Very limited Seepage, bottom layer Depth to bedrock Slope Slow water movement	 1.00 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31-Gilmore -----	30	Very limited Depth to bedrock Seepage, bottom layer Slope	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31ST09: 31-Steese-----	45	Very limited Slope Seepage, bottom layer Depth to bedrock Slow water movement	 1.00 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31-Gilmore -----	40	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31ST10: 31-Steese-----	45	Very limited Slope Seepage, bottom layer Depth to bedrock Slow water movement	 1.00 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31-Gilmore -----	40	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31ST11: 31-Steese-----	50	Very limited Slope Seepage, bottom layer Depth to bedrock Slow water movement	 1.00 1.00 1.00 0.46	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31-Gilmore -----	40	Very limited Depth to bedrock Slope Seepage, bottom layer	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 1.00
31TG01: 31-Toghotthele -----	90	Very limited Slope Seepage, bottom layer Slow water movement	 1.00 1.00 0.46	Very limited Slope Seepage	 1.00 1.00
31TG02: 31-Toghotthele -----	50	Very limited Seepage, bottom layer Slope Slow water movement	 1.00 1.00 0.46	Very limited Slope Seepage	 1.00 1.00
31-Fairbanks-----	30	Very limited Slope Slow water movement	 1.00 0.46	Very limited Slope Seepage	 1.00 0.53
31TG03: 31-Toghotthele -----	45	Very limited Seepage, bottom layer Slope Slow water movement	 1.00 1.00 0.46	Very limited Slope Seepage	 1.00 1.00

Table 12. Sanitary Facilities: Sewage Disposal

Map symbol and soil name	Percent of map unit	Septic tank absorption fields	Sewage lagoons		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31TG03: 31-Fairbanks-----	35	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 0.53
31TG04: 31-Toghotthele -----	50	Very limited Slope Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Slope Seepage	1.00 1.00
31-Fairbanks-----	30	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 0.53
31TG05: 31-Toghotthele -----	50	Very limited Seepage, bottom layer Slow water movement Slope	1.00 0.46 0.16	Very limited Slope Seepage	1.00 1.00
31-Fairbanks-----	30	Somewhat limited Slow water movement Slope	0.46 0.16	Very limited Slope Seepage	1.00 0.53
R29WAA: 29-Water -----	95	Not rated		Not rated	
R31WAA: 29-Water -----	98	Not rated		Not rated	

**Table 13. Sanitary Facilities: Landfill**

(This table gives soil limitation ratings and the primary limiting factors associated with the ratings. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Standard criteria)		Area sanitary landfill (Standard criteria)		Daily cover for landfill (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
28BU01: 28-Butchlake-----	40	Very limited: Slope Seepage, bottom layer	1.00 1.00	Very limited: Slope Seepage	1.00 1.00	Very limited: Slope Gravel content Seepage	1.00 0.72 0.50
28-Southpaw-----	40	Very limited: Seepage, bottom layer	1.00	Very limited: Seepage	1.00	Very limited: Seepage Gravel content	1.00 0.61
28-Salchaket family -----	15	Very limited: Ponding Too sandy Flooding	1.00 1.00 0.40	Very limited: Ponding Flooding	1.00 0.40	Very limited: Ponding Too sandy	1.00 1.00
28SP01: 28-Southpaw-----	45	Very limited: Seepage, bottom layer	1.00	Very limited: Seepage	1.00	Very limited: Seepage Gravel content	1.00 0.61
28-Butchlake-----	40	Very limited: Seepage, bottom layer	1.00	Very limited: Seepage	1.00	Somewhat limited: Gravel content Seepage	0.72 0.50
28SP02: 28-Southpaw-----	45	Very limited: Seepage, bottom layer Slope	1.00 0.16	Very limited: Seepage Slope	1.00 0.16	Very limited: Seepage Gravel content Slope	1.00 0.61 0.16
28-Butchlake-----	40	Very limited: Slope Seepage, bottom layer	1.00 1.00	Very limited: Slope Seepage	1.00 1.00	Very limited: Slope Gravel content Seepage	1.00 0.72 0.50
28TE01: 28-Terric Hemistels -----	55	Very limited: Depth to saturated zone Ponding Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00
28-Typic Aquiturbels-----	20	Very limited: Depth to permafrost Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00
28-Water -----	20	Not rated		Not rated		Not rated	

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		(Standard criteria)		(Standard criteria)		(Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29AE01: 29-Aquic Haplocryepts ---	55	Very limited: Depth to saturated zone Seepage, bottom layer Too sandy Flooding	1.00 1.00 1.00 0.40	Very limited: Depth to saturated zone Seepage Flooding	1.00 1.00 0.40	Very limited: Too sandy Seepage Gravel content	1.00 1.00 0.66
29-Typic Cryaquepts ----	30	Very limited: Depth to saturated zone Flooding	1.00 0.40	Very limited: Depth to saturated zone Flooding	1.00 0.40	Very limited: Depth to saturated zone	1.00
29CH01: 29-Chena -----	90	Very limited: Seepage, bottom layer Too sandy Flooding	1.00 1.00 0.40	Very limited: Seepage Flooding	1.00 0.40	Very limited: Too sandy Seepage Gravel content	1.00 1.00 1.00
29EL01: 29-Eielson -----	60	Very limited: Flooding Depth to saturated zone Ponding Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited: Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone	1.00 1.00
29-Piledriver, occasionally flooded ----	30	Very limited: Flooding Depth to saturated zone Ponding Seepage, bottom layer Too sandy	1.00 1.00 1.00 1.00 1.00	Very limited: Flooding Ponding Depth to saturated zone Seepage	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Too sandy Seepage Gravel content	1.00 1.00 1.00 1.00 0.16
29EL02: 29-Eielson, rarely flooded-----	50	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Flooding	1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone	1.00 1.00
29-Tanana-----	35	Very limited: Depth to saturated zone Ponding Depth to permafrost Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Depth to permafrost Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00
29FU01: 29-Fubar, occasionally flooded-----	50	Very limited: Flooding Depth to saturated zone Seepage, bottom layer Too sandy	1.00 1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Too sandy Seepage Gravel content	1.00 1.00 1.00



Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		(Standard criteria)		(Standard criteria)		(Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29FU01: 29-Piledriver, occasionally flooded ----	40	Very limited: Flooding Depth to saturated zone Ponding Seepage, bottom layer Too sandy	 1.00 1.00 1.00 1.00 1.00	Very limited: Flooding Ponding Depth to saturated zone Seepage	 1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Too sandy Seepage Gravel content	 1.00 1.00 1.00 1.00 0.16
29GE01: 29-Gerstle -----	65	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Too sandy	 1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Seepage	 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Too sandy Seepage	 1.00 1.00 1.00 1.00
29-Moosehead -----	30	Very limited: Depth to saturated zone Ponding Too sandy Seepage, bottom layer	 1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Seepage	 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Too sandy Seepage Gravel content	 1.00 1.00 1.00 1.00 0.01
29GE02: 29-Gerstle -----	50	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Too sandy	 1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Seepage	 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Too sandy Seepage	 1.00 1.00 1.00 1.00
29-Tanana -----	40	Very limited: Depth to saturated zone Ponding Depth to permafrost Flooding	 1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Depth to permafrost Flooding	 1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Depth to permafrost	 1.00 1.00 1.00
29GE04: 29-Gerstle family -----	55	Very limited: Flooding Depth to saturated zone Seepage, bottom layer	 1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone Seepage	 1.00 1.00 1.00	Very limited: Depth to saturated zone Seepage	 1.00 0.01
29-Tanacross family ----	25	Very limited: Depth to saturated zone Depth to permafrost	 1.00 1.00	Very limited: Depth to saturated zone Depth to permafrost	 1.00 1.00	Very limited: Depth to saturated zone Depth to permafrost	 1.00 1.00
29JV01: 29-Jarvis -----	75	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Too sandy Flooding	 1.00 1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Seepage Flooding	 1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Too sandy Seepage Gravel content	 1.00 1.00 1.00 1.00 0.41

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Standard criteria)		Area sanitary landfill (Standard criteria)		Daily cover for landfill (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29JV02: 29-Jarvis, occasionally flooded ----	85	Very limited: Flooding Depth to saturated zone Ponding Seepage, bottom layer Too sandy	1.00 1.00 1.00 1.00 1.00	Very limited: Flooding Ponding Depth to saturated zone Seepage	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Too sandy Seepage Gravel content	1.00 1.00 1.00 1.00 0.41
29JV04: 29-Jarvis -----	45	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Too sandy Flooding	1.00 1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Seepage Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Too sandy Seepage Gravel content	1.00 1.00 1.00 1.00 0.41
29-Salchaket-----	45	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Too sandy Flooding	1.00 1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Flooding	1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Too sandy Seepage	1.00 1.00 1.00 1.00
29JV05: 29-Jarvis, occasionally flooded ----	45	Very limited: Flooding Depth to saturated zone Ponding Seepage, bottom layer Too sandy	1.00 1.00 1.00 1.00 1.00	Very limited: Flooding Ponding Depth to saturated zone Seepage	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Too sandy Seepage Gravel content	1.00 1.00 1.00 1.00 0.41
29-Salchaket, occasionally flooded ----	45	Very limited: Flooding Depth to saturated zone Ponding Seepage, bottom layer Too sandy	1.00 1.00 1.00 1.00 1.00	Very limited: Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Too sandy Seepage	1.00 1.00 1.00 1.00
29KU01: 29-Koyukuk -----	50	Not limited		Not limited		Not limited	
29-Audrey family-----	35	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone Gravel content	1.00 0.01

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		(Standard criteria)		(Standard criteria)		(Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29KZ01: 29-lksgiza-----	60	Very limited: Depth to permafrost Depth to saturated zone	1.00 1.00	Very limited: Depth to permafrost Depth to saturated zone	1.00 1.00	Very limited: Depth to permafrost Depth to saturated zone	1.00 1.00
29-Histels-----	30	Very limited: Depth to permafrost Depth to saturated zone Ponding Organic matter content	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00
29KZ02: 29-lksgiza-----	45	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 0.16	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 0.16	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 0.16
29-Lupine family-----	35	Very limited: Seepage, bottom layer Too sandy	1.00 1.00	Very limited: Seepage	1.00	Very limited: Too sandy Seepage	1.00 0.79
29LS03: 29-Liscum-----	40	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Flooding	1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone	1.00 1.00
29-Terric Cryohemists---	40	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Seepage Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Seepage Gravel content	1.00 1.00 1.00 1.00
29LU01: 29-Lupine-----	70	Very limited: Ponding Seepage, bottom layer Too sandy	1.00 1.00 1.00	Very limited: Ponding Seepage	1.00 1.00	Very limited: Ponding Too sandy Seepage Gravel content	1.00 1.00 1.00 0.75
29LU02: 29-Lupine family-----	40	Very limited: Seepage, bottom layer Too sandy	1.00 1.00	Very limited: Seepage	1.00	Very limited: Too sandy Seepage	1.00 0.79
29-Beales-----	35	Very limited: Seepage, bottom layer Too sandy	1.00 1.00	Very limited: Seepage	1.00	Very limited: Too sandy Seepage	1.00 0.79
29LU03: 29-Lupine family-----	40	Very limited: Seepage, bottom layer Too sandy Slope	1.00 1.00 0.01	Very limited: Seepage Slope	1.00 0.01	Very limited: Too sandy Seepage Slope	1.00 0.79 0.01

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		(Standard criteria)		(Standard criteria)		(Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29LU03: 29-Beales-----	35	Very limited: Seepage, bottom layer Too sandy Slope	1.00 1.00 0.01	Very limited: Seepage Slope	1.00 0.01	Very limited: Too sandy Seepage Slope	1.00 0.79 0.01
29LU04: 29-Lupine family -----	35	Very limited: Seepage, bottom layer Too sandy Slope	1.00 1.00 0.01	Very limited: Seepage Slope	1.00 0.01	Very limited: Too sandy Seepage Slope	1.00 0.79 0.01
29-Bohica-----	25	Very limited: Seepage, bottom layer Too sandy Slope	1.00 1.00 0.01	Somewhat limited: Slope	0.01	Very limited: Too sandy Seepage Slope	1.00 0.63 0.01
29-Iksgiza-----	15	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 0.01	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 0.01	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 0.01
29LU05: 29-Lupine-----	45	Very limited: Ponding Seepage, bottom layer Too sandy	1.00 1.00 1.00	Very limited: Ponding Seepage	1.00 1.00	Very limited: Ponding Too sandy Seepage Gravel content	1.00 1.00 1.00 0.75
29-Jarvis-----	35	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Too sandy Flooding	1.00 1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Seepage Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Too sandy Seepage Gravel content	1.00 1.00 1.00 1.00 0.41
29MH01: 29-Moosehead family ---	60	Very limited: Seepage, bottom layer Too sandy Flooding	1.00 1.00 0.40	Very limited: Seepage Flooding	1.00 0.40	Very limited: Too sandy Seepage Gravel content	1.00 1.00 0.90
29-Nenana-----	30	Very limited: Seepage, bottom layer Too sandy	1.00 0.50	Very limited: Seepage	1.00	Very limited: Seepage Gravel content Too sandy	1.00 1.00 0.50
29NE01: 29-Nenana-----	75	Very limited: Seepage, bottom layer Too sandy	1.00 0.50	Very limited: Seepage	1.00	Very limited: Seepage Gravel content Too sandy	1.00 1.00 0.50

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Standard criteria)		Area sanitary landfill (Standard criteria)		Daily cover for landfill (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29NE03: 29-Nenana -----	45	Very limited: Seepage, bottom layer Too sandy	1.00 0.50	Very limited: Seepage	1.00	Very limited: Seepage Gravel content Too sandy	1.00 1.00 0.50
29-Donnelly -----	40	Very limited: Seepage, bottom layer Too sandy	1.00 1.00	Very limited: Seepage	1.00	Very limited: Too sandy Seepage Gravel content	1.00 1.00 0.91
29PL01: 29-Eielson, rarely flooded-----	50	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Flooding	1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone	1.00 1.00
29-Piledriver -----	30	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Too sandy Flooding	1.00 1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Seepage Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Too sandy Seepage Gravel content	1.00 1.00 1.00 1.00 0.16
29PT01: 29-Pits, gravel -----	100	Not rated		Not rated		Not rated	
29PT02: 29-Pits, quarry-----	100	Not rated		Not rated		Not rated	
29RC01: 29-Richardson-----	55	Very limited: Depth to saturated zone Ponding Seepage, bottom layer	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone	1.00 1.00	Very limited: Ponding Depth to saturated zone	1.00 1.00
29-Salchaket, occasionally flooded ----	25	Very limited: Flooding Depth to saturated zone Ponding Seepage, bottom layer Too sandy	1.00 1.00 1.00 1.00 1.00	Very limited: Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Too sandy Seepage	1.00 1.00 1.00 1.00
29SA01: 29-Sawmill Creek-----	85	Very limited: Ponding Seepage, bottom layer Too sandy	1.00 1.00 0.50	Very limited: Ponding Seepage	1.00 1.00	Very limited: Ponding Gravel content Too sandy Seepage	1.00 1.00 0.50 0.43

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		(Standard criteria)		(Standard criteria)		(Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29SC01: 29-Salchaket family -----	65	Very limited: Ponding Too sandy Seepage, bottom layer Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Seepage Flooding	1.00 1.00 0.40	Very limited: Ponding Too sandy Seepage	1.00 1.00 0.43
29-Hogan family -----	30	Very limited: Depth to permafrost Depth to saturated zone	1.00 1.00	Very limited: Depth to permafrost Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Depth to permafrost Depth to saturated zone Seepage	1.00 1.00 0.63
29SC02: 29-Salchaket-----	85	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Too sandy Flooding	1.00 1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Flooding	1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Too sandy Seepage	1.00 1.00 1.00 1.00
29SC03: 29-Salchaket, occasionally flooded ----	85	Very limited: Flooding Depth to saturated zone Ponding Seepage, bottom layer Too sandy	1.00 1.00 1.00 1.00 1.00	Very limited: Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Too sandy Seepage	1.00 1.00 1.00 1.00
29TC01: 29-Tanacross-----	75	Very limited: Depth to permafrost Depth to saturated zone Ponding Flooding	1.00 1.00 1.00 0.40	Very limited: Depth to permafrost Ponding Depth to saturated zone Flooding	1.00 1.00 1.00 0.40	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00
29TC02: 29-Tanacross family ----	55	Very limited: Depth to saturated zone Depth to permafrost	1.00 1.00	Very limited: Depth to saturated zone Depth to permafrost	1.00 1.00	Very limited: Depth to saturated zone Depth to permafrost	1.00 1.00
29-Moosehead -----	30	Very limited: Depth to saturated zone Ponding Too sandy Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Too sandy Seepage Gravel content	1.00 1.00 1.00 1.00 0.01
29TC03: 29-Tanacross, occasionally flooded ----	50	Very limited: Depth to permafrost Flooding Depth to saturated zone Ponding	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Flooding Ponding Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Standard criteria)		Area sanitary landfill (Standard criteria)		Daily cover for landfill (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29TC03: 29-Histels -----	45	Very limited: Depth to permafrost Depth to saturated zone Ponding Organic matter content	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00
29TN01: 29-Tanana -----	80	Very limited: Depth to saturated zone Ponding Depth to permafrost Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Depth to permafrost Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00
29TS01: 29-Terric Sapristels -----	90	Very limited: Depth to permafrost Depth to saturated zone Ponding Organic matter content	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00
29VM01: 29-Volkmar -----	90	Very limited: Depth to saturated zone Ponding Seepage, bottom layer Too sandy	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Too sandy Seepage	1.00 1.00 1.00 1.00
29WR01: 29-Water -----	45	Not rated		Not rated		Not rated	
29-Riverwash -----	40	Not rated		Not rated		Not rated	
31AN02: 31-Angel -----	45	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited: Depth to bedrock Slope Seepage	1.00 1.00 0.52
31-McCloud -----	45	Very limited: Slope Depth to bedrock	1.00 1.00	Very limited: Slope Depth to bedrock	1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00
31AN03: 31-Angel -----	55	Very limited: Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.16	Very limited: Depth to bedrock Seepage Slope	1.00 1.00 0.16	Very limited: Depth to bedrock Seepage Slope	1.00 0.52 0.16
31-McCloud -----	40	Very limited: Depth to bedrock Slope	1.00 0.16	Very limited: Depth to bedrock Slope	1.00 0.16	Very limited: Depth to bedrock Slope	1.00 0.16

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		(Standard criteria)		(Standard criteria)		(Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31BR01: 31-Brigadier -----	45	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00
31-Ester -----	40	Very limited: Depth to permafrost Depth to saturated zone Slope Depth to bedrock	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Slope Depth to saturated zone Depth to bedrock	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Depth to bedrock Slope Depth to saturated zone	1.00 1.00 1.00 1.00
31BR02: 31-Brigadier -----	45	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00
31-Ester -----	40	Very limited: Depth to permafrost Depth to saturated zone Slope Depth to bedrock	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Slope Depth to saturated zone Depth to bedrock	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Depth to bedrock Slope Depth to saturated zone	1.00 1.00 1.00 1.00
31BR08: 31-Brigadier -----	45	Very limited: Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.16	Very limited: Depth to bedrock Seepage Slope	1.00 1.00 0.16	Very limited: Depth to bedrock Slope	1.00 0.16
31-Manchu -----	40	Very limited: Depth to saturated zone Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00 0.16	Very limited: Depth to saturated zone Seepage Depth to bedrock Slope	1.00 1.00 1.00 0.16	Very limited: Depth to saturated zone Depth to bedrock Slope	1.00 1.00 0.16
31BR09: 31-Brigadier -----	60	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00
31-Manchu -----	25	Very limited: Depth to saturated zone Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00 0.16	Very limited: Depth to saturated zone Seepage Depth to bedrock Slope	1.00 1.00 1.00 0.16	Very limited: Depth to saturated zone Depth to bedrock Slope	1.00 1.00 0.16
31CH04: 31-Chatanika -----	45	Very limited: Depth to saturated zone Ponding Depth to permafrost	1.00 1.00 0.99	Very limited: Ponding Depth to saturated zone Depth to permafrost	1.00 1.00 0.99	Very limited: Ponding Depth to saturated zone Depth to permafrost	1.00 1.00 0.99



Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Standard criteria)		Area sanitary landfill (Standard criteria)		Daily cover for landfill (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31CH04: 31-Goldstream -----	40	Very limited: Depth to permafrost Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00
31ES01: 31-Ester -----	75	Very limited: Depth to permafrost Depth to saturated zone Slope Depth to bedrock	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Slope Depth to saturated zone Depth to bedrock	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Depth to bedrock Slope Depth to saturated zone	1.00 1.00 1.00 1.00
31FA02: 31-Fairbanks-----	80	Somewhat limited: Slope	0.16	Somewhat limited: Slope	0.16	Somewhat limited: Slope	0.16
31FA03: 31-Fairbanks-----	70	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31FA04: 31-Fairbanks-----	80	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31FA05: 31-Fairbanks-----	85	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31FA07: 31-Fairbanks, gullied ----	60	Somewhat limited: Slope	0.16	Somewhat limited: Slope	0.16	Somewhat limited: Slope	0.16
31-Fairbanks, gullied, steep-----	30	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31FA11: 31-Fairbanks-----	40	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31-Steese-----	35	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited: Slope Depth to bedrock	1.00 1.00
31GD01: 31-Goldstream -----	80	Very limited: Depth to permafrost Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		(Standard criteria)		(Standard criteria)		(Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31GD02: 31-Goldstream -----	75	Very limited: Depth to permafrost Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00
31GD03: 31-Goldstream -----	55	Very limited: Depth to permafrost Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00
31-Histels -----	30	Very limited: Depth to permafrost Depth to saturated zone Ponding Organic matter content	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00
31GL02: 31-Gilmore -----	70	Very limited: Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.16	Very limited: Depth to bedrock Seepage Slope	1.00 1.00 0.16	Very limited: Depth to bedrock Seepage Slope	1.00 0.52 0.16
31GL03: 31-Gilmore -----	75	Very limited: Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited: Depth to bedrock Slope Seepage	1.00 1.00 1.00	Very limited: Depth to bedrock Slope Seepage	1.00 1.00 0.52
31GL04: 31-Gilmore -----	75	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited: Depth to bedrock Slope Seepage	1.00 1.00 0.52
31GL05: 31-Gilmore -----	85	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited: Depth to bedrock Slope Seepage	1.00 1.00 0.52
31GL06: 31-Gilmore -----	85	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited: Depth to bedrock Slope Seepage	1.00 1.00 0.52
31HA01: 31-Happy -----	80	Very limited: Depth to permafrost Flooding Depth to saturated zone Ponding	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Flooding Ponding Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited: Depth to permafrost Ponding Depth to saturated zone Hard to compact	1.00 1.00 1.00 1.00

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Standard criteria)		Area sanitary landfill (Standard criteria)		Daily cover for landfill (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31MC01: 31-McCloud -----	85	Very limited: Depth to bedrock Slope	1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00
31MC02: 31-McCloud -----	85	Very limited: Slope Depth to bedrock	1.00 1.00	Very limited: Slope Depth to bedrock	1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00
31MC03: 31-McCloud -----	50	Very limited: Slope Depth to bedrock	1.00 1.00	Very limited: Slope Depth to bedrock	1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00
31-Fairbanks -----	45	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31MN01: 31-Minto -----	80	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
31MN02: 31-Minto -----	80	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
31MN03: 31-Minto -----	65	Very limited: Depth to saturated zone Slope	1.00 0.04	Very limited: Depth to saturated zone Slope	1.00 0.04	Very limited: Depth to saturated zone Slope	1.00 0.04
31MN04: 31-Minto -----	80	Very limited: Depth to saturated zone Slope	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 1.00
31MN05: 31-Minto -----	45	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
31-Chatanika -----	40	Very limited: Depth to saturated zone Ponding Depth to permafrost	1.00 1.00 0.99	Very limited: Ponding Depth to saturated zone Depth to permafrost	1.00 1.00 0.99	Very limited: Ponding Depth to saturated zone Depth to permafrost	1.00 1.00 0.99
31MN06: 31-Minto -----	40	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
31-Chatanika -----	35	Very limited: Depth to saturated zone Ponding Depth to permafrost	1.00 1.00 0.99	Very limited: Ponding Depth to saturated zone Depth to permafrost	1.00 1.00 0.99	Very limited: Ponding Depth to saturated zone Depth to permafrost	1.00 1.00 0.99

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Standard criteria)		Area sanitary landfill (Standard criteria)		Daily cover for landfill (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31MN07: 31-Minto-----	45	Very limited: Depth to saturated zone Slope	1.00 0.04	Very limited: Depth to saturated zone Slope	1.00 0.04	Very limited: Depth to saturated zone Slope	1.00 0.04
31-Chatanika -----	40	Very limited: Depth to saturated zone Ponding Depth to permafrost Slope	1.00 1.00 0.99 0.04	Very limited: Ponding Depth to saturated zone Depth to permafrost Slope	1.00 1.00 0.99 0.04	Very limited: Ponding Depth to saturated zone Depth to permafrost Slope	1.00 1.00 0.99 0.04
31RS01: 31-Rosie -----	95	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00
31SA06: 31-Saulich -----	40	Very limited: Depth to saturated zone Ponding Organic matter content Depth to permafrost Slope	1.00 1.00 1.00 1.00 0.16	Very limited: Ponding Depth to saturated zone Depth to permafrost Slope	1.00 1.00 1.00 0.16	Very limited: Ponding Depth to saturated zone Seepage Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00 1.00
31-Minto-----	35	Very limited: Depth to saturated zone Slope	1.00 0.16	Very limited: Depth to saturated zone Slope	1.00 0.16	Very limited: Depth to saturated zone Slope	1.00 0.16
31SA08: 31-Saulich -----	45	Very limited: Depth to saturated zone Ponding Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Depth to permafrost	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Seepage Organic matter content Depth to permafrost	1.00 1.00 1.00 1.00 1.00
31-Chatanika -----	35	Very limited: Depth to saturated zone Ponding Depth to permafrost	1.00 1.00 0.99	Very limited: Ponding Depth to saturated zone Depth to permafrost	1.00 1.00 0.99	Very limited: Ponding Depth to saturated zone Depth to permafrost	1.00 1.00 0.99
31-Minto-----	10	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
31SR02: 31-Strelna -----	85	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00
31SR03: 31-Strelna -----	80	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00	Very limited: Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00	Very limited: Depth to permafrost Slope Depth to saturated zone	1.00 1.00 1.00

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		(Standard criteria)		(Standard criteria)		(Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31SR04: 31-Strelna -----	85	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 0.04	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 0.04	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 0.04
31SR05: 31-Strelna -----	70	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00	Very limited: Depth to permafrost Depth to saturated zone Slope	1.00 1.00 1.00
31-Toghotthele -----	25	Very limited: Seepage, bottom layer Slope	1.00 1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31ST01: 31-Steese-----	80	Very limited: Depth to bedrock Seepage, bottom layer	1.00 1.00	Very limited: Seepage Depth to bedrock	1.00 1.00	Very limited: Depth to bedrock	1.00
31ST02: 31-Steese-----	80	Very limited: Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.16	Very limited: Seepage Depth to bedrock Slope	1.00 1.00 0.16	Very limited: Depth to bedrock Slope	1.00 0.16
31ST03: 31-Steese-----	80	Very limited: Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited: Seepage Depth to bedrock Slope	1.00 1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00
31ST04: 31-Steese-----	80	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited: Slope Depth to bedrock	1.00 1.00
31ST05: 31-Steese-----	80	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited: Slope Depth to bedrock	1.00 1.00
31ST06: 31-Steese-----	90	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited: Slope Depth to bedrock	1.00 1.00
31ST08: 31-Steese-----	50	Very limited: Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited: Seepage Depth to bedrock Slope	1.00 1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Standard criteria)		Area sanitary landfill (Standard criteria)		Daily cover for landfill (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31ST08: 31-Gilmore -----	30	Very limited: Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited: Depth to bedrock Slope Seepage	1.00 1.00 1.00	Very limited: Depth to bedrock Slope Seepage	1.00 1.00 0.52
31ST09: 31-Steese-----	45	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited: Slope Depth to bedrock	1.00 1.00
31-Gilmore -----	40	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited: Depth to bedrock Slope Seepage	1.00 1.00 0.52
31ST10: 31-Steese-----	45	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited: Slope Depth to bedrock	1.00 1.00
31-Gilmore -----	40	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited: Depth to bedrock Slope Seepage	1.00 1.00 0.52
31ST11: 31-Steese-----	50	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited: Slope Depth to bedrock	1.00 1.00
31-Gilmore -----	40	Very limited: Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited: Slope Depth to bedrock Seepage	1.00 1.00 1.00	Very limited: Depth to bedrock Slope Seepage	1.00 1.00 0.52
31TG01: 31-Toghotthele -----	90	Very limited: Slope Seepage, bottom layer	1.00 1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31TG02: 31-Toghotthele -----	50	Very limited: Seepage, bottom layer Slope	1.00 1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31-Fairbanks-----	30	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00

Table 13. Sanitary Facilities: Landfill—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Standard criteria)		Area sanitary landfill (Standard criteria)		Daily cover for landfill (Standard criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31TG03: 31-Toghotthele -----	45	Very limited: Seepage, bottom layer Slope	1.00 1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31-Fairbanks-----	35	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31TG04: 31-Toghotthele -----	50	Very limited: Slope Seepage, bottom layer	1.00 1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31-Fairbanks-----	30	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
31TG05: 31-Toghotthele -----	50	Very limited: Seepage, bottom layer Slope	1.00 0.16	Somewhat limited: Slope	0.16	Somewhat limited: Slope	0.16
31-Fairbanks-----	30	Somewhat limited: Slope	0.16	Somewhat limited: Slope	0.16	Somewhat limited: Slope	0.16
R29WAA: 29-Water -----	95	Not rated		Not rated		Not rated	
R31WAA: 29-Water -----	98	Not rated		Not rated		Not rated	

**Table 14. Construction Materials: Gravel and Sand**

(This table gives soil suitability ratings and the primary limiting factors associated with the ratings. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the potential limitation. Information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)	Potential source of sand (Alaska criteria)		
		Rating class and limiting features	Value	Rating class and limiting features	Value
28BU01: 28-Butchlake-----	40	Improbable: Bottom layer not a source Large rock fragments	0.00 0.29	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.29
28-Southpaw-----	40	Gravel source		Sand source	
28-Salchaket family-----	15	Improbable: Bottom layer not a source Large rock fragments	0.00 0.71	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.71
28SP01: 28-Southpaw-----	45	Gravel source		Sand source	
28-Butchlake-----	40	Improbable: Bottom layer not a source Large rock fragments	0.00 0.29	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.29
28SP02: 28-Southpaw-----	45	Gravel source		Sand source	
28-Butchlake-----	40	Improbable: Bottom layer not a source Large rock fragments	0.00 0.29	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.29
28TE01: 28-Terric Hemistels-----	55	Improbable: Permafrost at less than 20 inches Organic soil Bottom layer not a source	0.00 0.00 0.00	Improbable: Organic soil Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00 0.00
28-Typic Aquiturbels-----	20	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
28-Water-----	20	Not rated		Not rated	
29AE01: 29-Aquic Haplocrypts-----	55	Improbable: Bottom layer not a source Large rock fragments	0.00 0.43	Probable: Large rock fragments	0.43
29-Typic Cryaquepts-----	30	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29CH01: 29-Chena-----	90	Improbable: Bottom layer not a source	0.00	Sand source	



Table 14. Construction Materials: Gravel and Sand—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)	Potential source of sand (Alaska criteria)		
		Rating class and limiting features	Value	Rating class and limiting features	Value
29EL01: 29-Eielson -----	60	Probable: Large rock fragments	0.29	Probable: Large rock fragments	0.29
29-Piledriver, occasionally flooded ---	30	Improbable: Bottom layer not a source	0.00	Sand source	
29EL02: 29-Eielson, rarely flooded -----	50	Probable: Large rock fragments	0.29	Probable: Large rock fragments	0.29
29-Tanana -----	35	Improbable: Bottom layer not a source Permafrost at less than 20 inches	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
29FU01: 29-Fubar, occasionally flooded -----	50	Improbable: Bottom layer not a source	0.00	Sand source	
29-Piledriver, occasionally flooded ---	40	Improbable: Bottom layer not a source	0.00	Sand source	
29GE01: 29-Gerstle -----	65	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29-Moosehead -----	30	Probable: Large rock fragments	0.86	Probable: Large rock fragments	0.86
29GE02: 29-Gerstle -----	50	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29-Tanana -----	40	Improbable: Bottom layer not a source Permafrost at less than 20 inches	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
29GE04: 29-Gerstle family -----	55	Improbable: Bottom layer not a source	0.00	Sand source	
29-Tanacross family -----	25	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
29JV01: 29-Jarvis -----	75	Improbable: Bottom layer not a source	0.00	Sand source	
29JV02: 29-Jarvis, occasionally flooded -----	85	Improbable: Bottom layer not a source	0.00	Sand source	
29JV04: 29-Jarvis -----	45	Improbable: Bottom layer not a source	0.00	Sand source	
29-Salchaket -----	45	Gravel source		Sand source	

Table 14. Construction Materials: Gravel and Sand—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)	Potential source of sand (Alaska criteria)		
		Rating class and limiting features	Value	Rating class and limiting features	Value
29JV05: 29-Jarvis, occasionally flooded -----	45	Improbable: Bottom layer not a source	0.00	Sand source	
29-Salchaket, occasionally flooded---	45	Gravel source		Sand source	
29KU01: 29-Koyukuk -----	50	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29-Audrey family-----	35	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29KZ01: 29-Iksgiza-----	60	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
29-Histels -----	30	Improbable: Permafrost at less than 20 inches Organic soil Bottom layer not a source	0.00 0.00 0.00	Improbable: Organic soil Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00 0.00
29KZ02: 29-Iksgiza-----	45	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
29-Lupine family -----	35	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29LS03: 29-Liscum -----	40	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29-Terric Cryohemists-----	40	Improbable: Organic soil Large rock fragments	0.00 0.74	Improbable: Organic soil Large rock fragments	0.00 0.74
29LU01: 29-Lupine-----	70	Improbable: Bottom layer not a source Large rock fragments	0.00 0.86	Probable: Large rock fragments	0.86
29LU02: 29-Lupine family -----	40	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29-Beales-----	35	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29LU03: 29-Lupine family -----	40	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29-Beales-----	35	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00

Table 14. Construction Materials: Gravel and Sand—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)	Potential source of sand (Alaska criteria)		
		Rating class and limiting features	Value	Rating class and limiting features	Value
29LU04: 29-Lupine family -----	35	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29-Bohica-----	25	Improbable: Bottom layer not a source	0.00	Sand source	
29-Iksgiza-----	15	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
29LU05: 29-Lupine-----	45	Improbable: Bottom layer not a source Large rock fragments	0.00 0.86	Probable: Large rock fragments	0.86
29-Jarvis -----	35	Improbable: Bottom layer not a source	0.00	Sand source	
29MH01: 29-Moosehead family -----	60	Gravel source		Sand source	
29-Nenana -----	30	Gravel source		Sand source	
29NE01: 29-Nenana -----	75	Gravel source		Sand source	
29NE03: 29-Nenana -----	45	Gravel source		Sand source	
29-Donnelly -----	40	Probable: Large rock fragments	0.71	Probable: Large rock fragments	0.71
29PL01: 29-Eielson, rarely flooded -----	50	Probable: Large rock fragments	0.29	Probable: Large rock fragments	0.29
29-Piledriver -----	30	Improbable: Bottom layer not a source	0.00	Sand source	
29PT01: 29-Pits, gravel -----	100	Not rated		Not rated	
29PT02: 29-Pits, quarry-----	100	Not rated		Not rated	
29RC01: 29-Richardson-----	55	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29-Salchaket, occasionally flooded---	25	Gravel source		Sand source	
29SA01: 29-Sawmill Creek-----	85	Improbable: Bottom layer not a source Large rock fragments	0.00 0.91	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.91

Table 14. Construction Materials: Gravel and Sand—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)	Potential source of sand (Alaska criteria)		
		Rating class and limiting features	Value	Rating class and limiting features	Value
29SC01: 29-Salchaket family -----	65	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
29-Hogan family -----	30	Improbable: Bottom layer not a source Permafrost at less than 20 inches	0.00 0.09	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.09
29SC02: 29-Salchaket -----	85	Gravel source		Sand source	
29SC03: 29-Salchaket, occasionally flooded ---	85	Gravel source		Sand source	
29TC01: 29-Tanacross -----	75	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
29TC02: 29-Tanacross family -----	55	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
29-Moosehead -----	30	Probable: Large rock fragments	0.86	Probable: Large rock fragments	0.86
29TC03: 29-Tanacross, occasionally flooded --	50	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
29-Histels -----	45	Improbable: Permafrost at less than 20 inches Organic soil Bottom layer not a source	0.00 0.00 0.00	Improbable: Organic soil Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00 0.00
29TN01: 29-Tanana -----	80	Improbable: Bottom layer not a source Permafrost at less than 20 inches	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
29TS01: 29-Terric Sapristels -----	90	Improbable: Permafrost at less than 20 inches Organic soil Bottom layer not a source	0.00 0.00 0.00	Improbable: Organic soil Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00 0.00
29VM01: 29-Volkmar -----	90	Improbable: Bottom layer not a source Large rock fragments	0.00 0.77	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.77
29WR01: 29-Water -----	45	Not rated		Not rated	
29-Riverwash -----	40	Not rated		Not rated	

Table 14. Construction Materials: Gravel and Sand—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)	Potential source of sand (Alaska criteria)		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31AN02: 31-Angel -----	45	Improbable: Bottom layer not a source Large rock fragments	0.00 0.29	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.29
31-McCloud -----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31AN03: 31-Angel -----	55	Improbable: Bottom layer not a source Large rock fragments	0.00 0.29	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.29
31-McCloud -----	40	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31BR01: 31-Brigadier -----	45	Improbable: Bottom layer not a source Large rock fragments	0.00 0.71	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.71
31-Ester -----	40	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31BR02: 31-Brigadier -----	45	Improbable: Bottom layer not a source Large rock fragments	0.00 0.71	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.71
31-Ester -----	40	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31BR08: 31-Brigadier -----	45	Improbable: Bottom layer not a source Large rock fragments	0.00 0.71	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.71
31-Manchu -----	40	Improbable: Bottom layer not a source Too many large rock fragments	0.00 0.00	Improbable: Bottom layer a poor source Too many large rock fragments	0.00 0.00
31BR09: 31-Brigadier -----	60	Improbable: Bottom layer not a source Large rock fragments	0.00 0.71	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.71
31-Manchu -----	25	Improbable: Bottom layer not a source Too many large rock fragments	0.00 0.00	Improbable: Bottom layer a poor source Too many large rock fragments	0.00 0.00
31CH04: 31-Chatanika -----	45	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00

Table 14. Construction Materials: Gravel and Sand—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)	Potential source of sand (Alaska criteria)		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31CH04: 31-Goldstream -----	40	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31ES01: 31-Ester -----	75	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31FA02: 31-Fairbanks -----	80	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31FA03: 31-Fairbanks -----	70	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31FA04: 31-Fairbanks -----	80	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31FA05: 31-Fairbanks -----	85	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31FA07: 31-Fairbanks, gullied -----	60	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31-Fairbanks, gullied, steep -----	30	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31FA11: 31-Fairbanks -----	40	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31-Steese -----	35	Improbable: Bottom layer not a source Large rock fragments	0.00 0.43	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.43
31GD01: 31-Goldstream -----	80	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31GD02: 31-Goldstream -----	75	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31GD03: 31-Goldstream -----	55	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00

Table 14. Construction Materials: Gravel and Sand—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)	Potential source of sand (Alaska criteria)		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31GD03: 31-Histels -----	30	Improbable: Permafrost at less than 20 inches Organic soil Bottom layer not a source	0.00 0.00 0.00	Improbable: Organic soil Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00 0.00
31GL02: 31-Gilmore -----	70	Improbable: Bottom layer not a source Too many large rock fragments	0.00 0.00	Improbable: Bottom layer a poor source Too many large rock fragments	0.00 0.00
31GL03: 31-Gilmore -----	75	Improbable: Bottom layer not a source Too many large rock fragments	0.00 0.00	Improbable: Bottom layer a poor source Too many large rock fragments	0.00 0.00
31GL04: 31-Gilmore -----	75	Improbable: Bottom layer not a source Too many large rock fragments	0.00 0.00	Improbable: Bottom layer a poor source Too many large rock fragments	0.00 0.00
31GL05: 31-Gilmore -----	85	Improbable: Bottom layer not a source Too many large rock fragments	0.00 0.00	Improbable: Bottom layer a poor source Too many large rock fragments	0.00 0.00
31GL06: 31-Gilmore -----	85	Improbable: Bottom layer not a source Too many large rock fragments	0.00 0.00	Improbable: Bottom layer a poor source Too many large rock fragments	0.00 0.00
31HA01: 31-Happy -----	80	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31MC01: 31-McCloud -----	85	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31MC02: 31-McCloud -----	85	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31MC03: 31-McCloud -----	50	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31-Fairbanks-----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31MN01: 31-Minto-----	80	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00

Table 14. Construction Materials: Gravel and Sand—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)	Potential source of sand (Alaska criteria)		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31MN02: 31-Minto-----	80	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31MN03: 31-Minto-----	65	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31MN04: 31-Minto-----	80	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31MN05: 31-Minto-----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31-Chatanika -----	40	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31MN06: 31-Minto-----	40	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31-Chatanika -----	35	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31MN07: 31-Minto-----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31-Chatanika -----	40	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31RS01: 31-Rosie -----	95	Improbable: Bottom layer not a source Large rock fragments	0.00 0.11	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.11
31SA06: 31-Saulich -----	40	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31-Minto-----	35	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31SA08: 31-Saulich -----	45	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31-Chatanika -----	35	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00



Table 14. Construction Materials: Gravel and Sand—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)	Potential source of sand (Alaska criteria)		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31SA08: 31-Minto-----	10	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31SR02: 31-Strelna -----	85	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31SR03: 31-Strelna -----	80	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31SR04: 31-Strelna -----	85	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31SR05: 31-Strelna -----	70	Improbable: Permafrost at less than 20 inches Bottom layer not a source	0.00 0.00	Improbable: Bottom layer a poor source Permafrost at less than 20 inches	0.00 0.00
31-Toghotthele -----	25	Improbable: Bottom layer not a source	0.00	Sand source	
31ST01: 31-Steese-----	80	Improbable: Bottom layer not a source Large rock fragments	0.00 0.43	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.43
31ST02: 31-Steese-----	80	Improbable: Bottom layer not a source Large rock fragments	0.00 0.43	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.43
31ST03: 31-Steese-----	80	Improbable: Bottom layer not a source Large rock fragments	0.00 0.43	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.43
31ST04: 31-Steese-----	80	Improbable: Bottom layer not a source Large rock fragments	0.00 0.43	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.43
31ST05: 31-Steese-----	80	Improbable: Bottom layer not a source Large rock fragments	0.00 0.43	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.43
31ST06: 31-Steese-----	90	Improbable: Bottom layer not a source Large rock fragments	0.00 0.43	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.43

Table 14. Construction Materials: Gravel and Sand—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)	Potential source of sand (Alaska criteria)		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31ST08: 31-Steese-----	50	Improbable: Bottom layer not a source Large rock fragments	0.00 0.43	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.43
31-Gilmore -----	30	Improbable: Bottom layer not a source Too many large rock fragments	0.00 0.00	Improbable: Bottom layer a poor source Too many large rock fragments	0.00 0.00
31ST09: 31-Steese-----	45	Improbable: Bottom layer not a source Large rock fragments	0.00 0.43	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.43
31-Gilmore -----	40	Improbable: Bottom layer not a source Too many large rock fragments	0.00 0.00	Improbable: Bottom layer a poor source Too many large rock fragments	0.00 0.00
31ST10: 31-Steese-----	45	Improbable: Bottom layer not a source Large rock fragments	0.00 0.43	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.43
31-Gilmore -----	40	Improbable: Bottom layer not a source Too many large rock fragments	0.00 0.00	Improbable: Bottom layer a poor source Too many large rock fragments	0.00 0.00
31ST11: 31-Steese-----	50	Improbable: Bottom layer not a source Large rock fragments	0.00 0.43	Improbable: Bottom layer a poor source Large rock fragments	0.00 0.43
31-Gilmore -----	40	Improbable: Bottom layer not a source Too many large rock fragments	0.00 0.00	Improbable: Bottom layer a poor source Too many large rock fragments	0.00 0.00
31TG01: 31-Toghotthele-----	90	Improbable: Bottom layer not a source	0.00	Sand source	
31TG02: 31-Toghotthele-----	50	Improbable: Bottom layer not a source	0.00	Sand source	
31-Fairbanks-----	30	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31TG03: 31-Toghotthele-----	45	Improbable: Bottom layer not a source	0.00	Sand source	
31-Fairbanks-----	35	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31TG04: 31-Toghotthele-----	50	Improbable: Bottom layer not a source	0.00	Sand source	

Table 14. Construction Materials: Gravel and Sand—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)	Potential source of sand (Alaska criteria)		
		Rating class and limiting features	Value	Rating class and limiting features	Value
31TG04: 31-Fairbanks-----	30	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
31TG05: 31-Toghotthele-----	50	Improbable: Bottom layer not a source	0.00	Sand source	
31-Fairbanks-----	30	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer a poor source	0.00
R29WAA: 29-Water-----	95	Not rated		Not rated	
R31WAA: 29-Water-----	98	Not rated		Not rated	

**Table 15. Construction Materials: Topsoil and Roadfill**

(This table gives soil suitability ratings and the primary limiting factors associated with the ratings. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the potential limitation. Information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
28BU01: 28-Butchlake-----	40	Poor: Slope Rock fragment content Hard to reclaim	0.00 0.00 0.00	Poor: Slope Moderate frost action (check lower layers) Cobble content	0.00 0.50 0.72
28-Southpaw-----	40	Poor: Rock fragment content	0.00	Fair: Moderate frost action (check lower layers)	0.50
28-Salchaket family -----	15	Fair: Rock fragment content	0.12	Fair: Moderate frost action (check lower layers)	0.50
28SP01: 28-Southpaw-----	45	Poor: Rock fragment content	0.00	Fair: Moderate frost action (check lower layers)	0.50
28-Butchlake-----	40	Poor: Rock fragment content Hard to reclaim	0.00 0.00	Fair: Moderate frost action (check lower layers) Cobble content	0.50 0.72
28SP02: 28-Southpaw-----	45	Poor: Rock fragment content Slope	0.00 0.84	Fair: Moderate frost action (check lower layers)	0.50
28-Butchlake-----	40	Poor: Rock fragment content Slope Hard to reclaim	0.00 0.00 0.00	Fair: Moderate frost action (check lower layers) Cobble content	0.50 0.72
28TE01: 28-Terric Hemistels -----	55	Poor: Depth to saturated zone Content of organic matter	0.00 0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
28-Typic Aquiturbels-----	20	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
28-Water -----	20	Not rated		Not rated	
29AE01: 29-Aquic Haplocrypts -----	55	Poor: Rock fragment content Too sandy Hard to reclaim	0.00 0.00 0.12	Poor: High frost action (check lower layers)	0.00

Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
29AE01: 29-Typic Cryaquepts -----	30	Fair: Depth to saturated zone	0.14	Poor: High frost action (check lower layers) Low strength Depth to saturated zone	0.00 0.00 0.14
29CH01: 29-Chena -----	90	Poor: Too sandy Rock fragment content	0.00 0.00	Good source	
29EL01: 29-Eielson -----	60	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29-Piledriver, occasionally flooded-----	30	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29EL02: 29-Eielson, rarely flooded -----	50	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29-Tanana-----	35	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29FU01: 29-Fubar, occasionally flooded -	50	Poor: Rock fragment content Too sandy	0.00 0.00	Good source	
29-Piledriver, occasionally flooded-----	40	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29GE01: 29-Gerstle -----	65	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29-Moosehead -----	30	Poor: Depth to saturated zone Rock fragment content	0.00 0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29GE02: 29-Gerstle -----	50	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29-Tanana-----	40	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00

Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
29GE04: 29-Gerstle family -----	55	Poor: Depth to saturated zone Rock fragment content	0.00 0.98	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29-Tanacross family -----	25	Poor: Depth to saturated zone Content of organic matter Too acid	0.00 0.00 0.59	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29JV01: 29-Jarvis -----	75	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29JV02: 29-Jarvis, occasionally flooded --	85	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29JV04: 29-Jarvis -----	45	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29-Salchaket-----	45	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29JV05: 29-Jarvis, occasionally flooded --	45	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29-Salchaket, occasionally flooded-----	45	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29KU01: 29-Koyukuk -----	50	Good source		Fair: Moderate frost action (check lower layers)	0.50
29-Audrey family-----	35	Poor: Depth to saturated zone Rock fragment content	0.00 0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29KZ01: 29-Iksgiza-----	60	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29-Histels -----	30	Poor: Depth to saturated zone Content of organic matter	0.00 0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00

Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
29KZ02: 29-Iksgiza-----	45	Poor: Depth to saturated zone Slope	0.00 0.84	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29-Lupine family -----	35	Good source		Fair: Moderate frost action (check lower layers)	0.50
29LS03: 29-Liscum -----	40	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29-Terric Cryohemists-----	40	Poor: Depth to saturated zone Rock fragment content Hard to reclaim	0.00 0.00 0.92	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29LU01: 29-Lupine -----	70	Poor: Too sandy Rock fragment content	0.00 0.00	Good source	
29LU02: 29-Lupine family -----	40	Good source		Fair: Moderate frost action (check lower layers)	0.50
29-Beales-----	35	Good source		Good source	
29LU03: 29-Lupine family -----	40	Good source		Fair: Moderate frost action (check lower layers)	0.50
29-Beales-----	35	Good source		Good source	
29LU04: 29-Lupine family -----	35	Good source		Fair: Moderate frost action (check lower layers)	0.50
29-Bohica-----	25	Good source		Fair: Moderate frost action (check lower layers)	0.50
29-Iksgiza-----	15	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29LU05: 29-Lupine -----	45	Poor: Too sandy Rock fragment content	0.00 0.00	Good source	
29-Jarvis -----	35	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50

Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
29MH01: 29-Moosehead family -----	60	Poor: Rock fragment content	0.00	Fair: Moderate frost action (check lower layers)	0.50
29-Nenana -----	30	Poor: Rock fragment content	0.00	Poor: High frost action (check lower layers)	0.00
29NE01: 29-Nenana -----	75	Poor: Rock fragment content	0.00	Poor: High frost action (check lower layers)	0.00
29NE03: 29-Nenana -----	45	Poor: Rock fragment content	0.00	Poor: High frost action (check lower layers)	0.00
29-Donnelly -----	40	Poor: Rock fragment content Hard to reclaim	0.00 0.88	Fair: Moderate frost action (check lower layers)	0.50
29PL01: 29-Eielson, rarely flooded -----	50	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29-Piledriver -----	30	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29PT01: 29-Pits, gravel -----	100	Not rated		Not rated	
29PT02: 29-Pits, quarry -----	100	Not rated		Not rated	
29RC01: 29-Richardson -----	55	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29-Salchaket, occasionally flooded -----	25	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29SA01: 29-Sawmill Creek -----	85	Poor: Rock fragment content	0.00	Fair: Moderate frost action (check lower layers)	0.50
29SC01: 29-Salchaket family -----	65	Good source		Fair: Moderate frost action (check lower layers)	0.50
29-Hogan family -----	30	Poor: Depth to saturated zone No permafrost limitation	0.00 0.91	Poor: Depth to saturated zone Moderate frost action (check lower layers) No permafrost limitation	0.00 0.50 0.91



Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
29SC02: 29-Salchaket-----	85	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29SC03: 29-Salchaket, occasionally flooded-----	85	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29TC01: 29-Tanacross-----	75	Poor: Depth to saturated zone Content of organic matter Too acid	0.00 0.00 0.32	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29TC02: 29-Tanacross family-----	55	Poor: Depth to saturated zone Content of organic matter Too acid	0.00 0.00 0.59	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29-Moosehead-----	30	Poor: Depth to saturated zone Rock fragment content	0.00 0.00	Poor: Depth to saturated zone Moderate frost action (check lower layers)	0.00 0.50
29TC03: 29-Tanacross, occasionally flooded-----	50	Poor: Depth to saturated zone Content of organic matter Too acid	0.00 0.00 0.32	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29-Histels-----	45	Poor: Depth to saturated zone Content of organic matter	0.00 0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29TN01: 29-Tanana-----	80	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29TS01: 29-Terric Sapristels-----	90	Poor: Depth to saturated zone Content of organic matter	0.00 0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29VM01: 29-Volkmar-----	90	Poor: Depth to saturated zone Hard to reclaim	0.00 0.95	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
29WR01: 29-Water-----	45	Not rated		Not rated	
29-Riverwash-----	40	Not rated		Not rated	

Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil		Potential source of roadfill	
		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31AN02: 31-Angel -----	45	Poor: Slope Rock fragment content Depth to bedrock	0.00 0.00 0.00	Poor: Depth to bedrock Moderate frost action (check lower layers) Slope	0.00 0.50 0.50
31-McCloud -----	45	Poor: Slope Depth to bedrock	0.00 0.44	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50
31AN03: 31-Angel -----	55	Poor: Rock fragment content Depth to bedrock Slope	0.00 0.00 0.84	Poor: Depth to bedrock Moderate frost action (check lower layers)	0.00 0.50
31-McCloud -----	40	Fair: Depth to bedrock Slope	0.44 0.84	Poor: Depth to bedrock Moderate frost action (check lower layers)	0.00 0.50
31BR01: 31-Brigadier -----	45	Poor: Slope Content of organic matter Depth to bedrock Too acid	0.00 0.00 0.00 0.24	Poor: Depth to bedrock Moderate frost action (check lower layers) Slope	0.00 0.50 0.92
31-Ester -----	40	Poor: Slope Depth to saturated zone Content of organic matter Depth to bedrock Too acid	0.00 0.00 0.00 0.00 0.18	Poor: Depth to bedrock Depth to saturated zone High frost action (check lower layers) Slope	0.00 0.00 0.00 0.00
31BR02: 31-Brigadier -----	45	Poor: Slope Content of organic matter Depth to bedrock Too acid	0.00 0.00 0.00 0.24	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50
31-Ester -----	40	Poor: Slope Depth to saturated zone Content of organic matter Depth to bedrock Too acid	0.00 0.00 0.00 0.00 0.18	Poor: Depth to bedrock Depth to saturated zone Slope High frost action (check lower layers)	0.00 0.00 0.00 0.00
31BR08: 31-Brigadier -----	45	Poor: Content of organic matter Depth to bedrock Too acid Slope	0.00 0.00 0.24 0.84	Poor: Depth to bedrock Moderate frost action (check lower layers)	0.00 0.50

Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31BR08: 31-Manchu -----	40	Poor: Depth to saturated zone Slope	0.00 0.84	Poor: Depth to saturated zone Depth to bedrock Moderate frost action (check lower layers)	0.00 0.00 0.50
31BR09: 31-Brigadier -----	60	Poor: Slope Content of organic matter Depth to bedrock Too acid	0.00 0.00 0.00 0.24	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50
31-Manchu -----	25	Poor: Depth to saturated zone Slope	0.00 0.84	Poor: Depth to saturated zone Depth to bedrock Moderate frost action (check lower layers)	0.00 0.00 0.50
31CH04: 31-Chatanika -----	45	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31-Goldstream -----	40	Poor: Depth to saturated zone Content of organic matter Too acid	0.00 0.00 0.18	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31ES01: 31-Ester -----	75	Poor: Slope Depth to saturated zone Content of organic matter Depth to bedrock Too acid	0.00 0.00 0.00 0.00 0.18	Poor: Depth to bedrock Depth to saturated zone High frost action (check lower layers) Slope	0.00 0.00 0.00 0.00
31FA02: 31-Fairbanks -----	80	Fair: Slope	0.84	Poor: High frost action (check lower layers)	0.00
31FA03: 31-Fairbanks -----	70	Poor: Slope	0.00	Poor: High frost action (check lower layers)	0.00
31FA04: 31-Fairbanks -----	80	Poor: Slope	0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00
31FA05: 31-Fairbanks -----	85	Poor: Slope	0.00	Poor: Slope High frost action (check lower layers)	0.00 0.00

Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31FA07: 31-Fairbanks, gullied -----	60	Fair: Slope	0.84	Poor: High frost action (check lower layers)	0.00
31-Fairbanks, gullied, steep -----	30	Poor: Slope	0.00	Poor: Slope High frost action (check lower layers)	0.00 0.00
31FA11: 31-Fairbanks-----	40	Poor: Slope	0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00
31-Steese-----	35	Poor: Slope Depth to bedrock	0.00 0.79	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50
31GD01: 31-Goldstream -----	80	Poor: Depth to saturated zone Content of organic matter Too acid	0.00 0.00 0.18	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31GD02: 31-Goldstream -----	75	Poor: Depth to saturated zone Content of organic matter Too acid	0.00 0.00 0.18	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31GD03: 31-Goldstream -----	55	Poor: Depth to saturated zone Content of organic matter Too acid	0.00 0.00 0.18	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31-Histels-----	30	Poor: Depth to saturated zone Content of organic matter	0.00 0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31GL02: 31-Gilmore -----	70	Poor: Rock fragment content Depth to bedrock Slope	0.00 0.00 0.84	Poor: Depth to bedrock Moderate frost action (check lower layers)	0.00 0.50
31GL03: 31-Gilmore -----	75	Poor: Rock fragment content Depth to bedrock Slope	0.00 0.00 0.00	Poor: Depth to bedrock Moderate frost action (check lower layers) Slope	0.00 0.50 0.98
31GL04: 31-Gilmore -----	75	Poor: Slope Rock fragment content Depth to bedrock	0.00 0.00 0.00	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50

Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31GL05: 31-Gilmore -----	85	Poor: Slope Rock fragment content Depth to bedrock	0.00 0.00 0.00	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50
31GL06: 31-Gilmore -----	85	Poor: Slope Rock fragment content Depth to bedrock	0.00 0.00 0.00	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50
31HA01: 31-Happy -----	80	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers) Low strength	0.00 0.00 0.22
31MC01: 31-McCloud -----	85	Poor: Slope Depth to bedrock	0.00 0.44	Poor: Depth to bedrock Moderate frost action (check lower layers) Slope	0.00 0.50 0.98
31MC02: 31-McCloud -----	85	Poor: Slope Depth to bedrock	0.00 0.44	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50
31MC03: 31-McCloud -----	50	Poor: Slope Depth to bedrock	0.00 0.44	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50
31-Fairbanks-----	45	Poor: Slope	0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00
31MN01: 31-Minto-----	80	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31MN02: 31-Minto-----	80	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31MN03: 31-Minto-----	65	Poor: Depth to saturated zone Slope	0.00 0.96	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00

Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil		Potential source of roadfill	
		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31MN04: 31-Minto-----	80	Poor: Depth to saturated zone Slope	0.00 0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31MN05: 31-Minto-----	45	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31-Chatanika -----	40	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31MN06: 31-Minto-----	40	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31-Chatanika -----	35	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31MN07: 31-Minto-----	45	Poor: Depth to saturated zone Slope	0.00 0.96	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31-Chatanika -----	40	Poor: Depth to saturated zone Slope	0.00 0.96	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31RS01: 31-Rosie -----	95	Poor: Slope Depth to bedrock	0.00 0.30	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50
31SA06: 31-Saulich -----	40	Poor: Depth to saturated zone Content of organic matter Slope Too acid	0.00 0.00 0.84 0.95	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31-Minto-----	35	Poor: Depth to saturated zone Slope	0.00 0.84	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31SA08: 31-Saulich -----	45	Poor: Depth to saturated zone Content of organic matter Too acid	0.00 0.00 0.95	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00

Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil		Potential source of roadfill	
		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31SA08: 31-Chatanika -----	35	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31-Minto-----	10	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31SR02: 31-Strelna -----	85	Poor: Depth to saturated zone Slope	0.00 0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31SR03: 31-Strelna -----	80	Poor: Slope Depth to saturated zone	0.00 0.00	Poor: Depth to saturated zone High frost action (check lower layers) Slope	0.00 0.00 0.00
31SR04: 31-Strelna -----	85	Poor: Depth to saturated zone Slope	0.00 0.96	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31SR05: 31-Strelna -----	70	Poor: Depth to saturated zone Slope	0.00 0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
31-Toghotthele -----	25	Poor: Slope	0.00	Poor: High frost action (check lower layers) Slope	0.00 0.50
31ST01: 31-Steese-----	80	Fair: Depth to bedrock	0.79	Poor: Depth to bedrock Moderate frost action (check lower layers)	0.00 0.50
31ST02: 31-Steese-----	80	Fair: Depth to bedrock Slope	0.79 0.84	Poor: Depth to bedrock Moderate frost action (check lower layers)	0.00 0.50
31ST03: 31-Steese-----	80	Poor: Slope Depth to bedrock	0.00 0.79	Poor: Depth to bedrock Moderate frost action (check lower layers)	0.00 0.50
31ST04: 31-Steese-----	80	Poor: Slope Depth to bedrock	0.00 0.79	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50

Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil		Potential source of roadfill	
		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31ST05: 31-Steese-----	80	Poor: Slope Depth to bedrock	0.00 0.79	Poor: Slope Depth to bedrock Moderate frost action (check lower layers)	0.00 0.00 0.50
31ST06: 31-Steese-----	90	Poor: Slope Depth to bedrock	0.00 0.79	Poor: Slope Depth to bedrock Moderate frost action (check lower layers)	0.00 0.00 0.50
31ST08: 31-Steese-----	50	Poor: Slope Depth to bedrock	0.00 0.79	Poor: Depth to bedrock Moderate frost action (check lower layers)	0.00 0.50
31-Gilmore -----	30	Poor: Rock fragment content Depth to bedrock Slope	0.00 0.00 0.00	Poor: Depth to bedrock Moderate frost action (check lower layers)	0.00 0.50
31ST09: 31-Steese-----	45	Poor: Slope Depth to bedrock	0.00 0.79	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50
31-Gilmore -----	40	Poor: Slope Rock fragment content Depth to bedrock	0.00 0.00 0.00	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50
31ST10: 31-Steese-----	45	Poor: Slope Depth to bedrock	0.00 0.79	Poor: Slope Depth to bedrock Moderate frost action (check lower layers)	0.00 0.00 0.50
31-Gilmore -----	40	Poor: Slope Rock fragment content Depth to bedrock	0.00 0.00 0.00	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50
31ST11: 31-Steese-----	50	Poor: Slope Depth to bedrock	0.00 0.79	Poor: Slope Depth to bedrock Moderate frost action (check lower layers)	0.00 0.00 0.50
31-Gilmore -----	40	Poor: Slope Rock fragment content Depth to bedrock	0.00 0.00 0.00	Poor: Depth to bedrock Slope Moderate frost action (check lower layers)	0.00 0.00 0.50



Table 15. Construction Materials: Topsoil and Roadfill—Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31TG01: 31-Toghotthele -----	90	Poor: Slope	0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00
31TG02: 31-Toghotthele -----	50	Poor: Slope	0.00	Poor: High frost action (check lower layers) Slope	0.00 0.98
31-Fairbanks-----	30	Poor: Slope	0.00	Poor: High frost action (check lower layers) Slope	0.00 0.98
31TG03: 31-Toghotthele -----	45	Poor: Slope	0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00
31-Fairbanks-----	35	Poor: Slope	0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00
31TG04: 31-Toghotthele -----	50	Poor: Slope	0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00
31-Fairbanks-----	30	Poor: Slope	0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00
31TG05: 31-Toghotthele -----	50	Fair: Slope	0.84	Poor: High frost action (check lower layers)	0.00
31-Fairbanks-----	30	Fair: Slope	0.84	Poor: High frost action (check lower layers)	0.00
R29WAA: 29-Water -----	95	Not rated		Not rated	
R31WAA: 29-Water -----	98	Not rated		Not rated	

**Table 16. Hydric Soils List**

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
28BU01:						
28-Butchlake (40%)-----	No	hills	---	---	---	---
28-Salchaket family (15%)-----	No	alluvial fans	---	---	---	---
28-Southpaw (40%)-----	No	hills	---	---	---	---
28-Terric Hemistels (5%)-----	Yes	depressions on plains	1,3	YES	No	YES
28SP01:						
28-Audrey (7%)-----	No	hills	---	---	---	---
28-Butchlake (40%)-----	No	hills	---	---	---	---
28-Southpaw (45%)-----	No	hills	---	---	---	---
28-Terric Hemistels (5%)-----	Yes	depressions on plains	1,3	YES	No	YES
28-Water (3%)-----	Unranked	lakes	---	---	---	---
28SP02:						
28-Audrey (10%)-----	No	hills	---	---	---	---
28-Butchlake (40%)-----	No	hills	---	---	---	---
28-Southpaw (45%)-----	No	hills	---	---	---	---
28-Typic Aquiturbels (5%)-----	Yes	depressions on hills	2B3	YES	No	No
28TE01:						
28-Audrey (5%)-----	No	hills	---	---	---	---
28-Terric Hemistels (55%)-----	Yes	depressions on plains	1,3	YES	No	YES
28-Typic Aquiturbels (20%)-----	Yes	depressions on plains	2B3	YES	No	No
28-Water (20%)-----	Unranked	lakes	---	---	---	---
29AE01:						
29-Aquic Cryofluvents (10%)-----	No	channels on flood plains	---	---	---	---
29-Aquic Haplocrypts (55%)-----	No	flood plains	---	---	---	---
29-Salchaket (5%)-----	No	flood plains	---	---	---	---
29-Typic Cryaquepts (30%)-----	Yes	depressions on flood plains	2B3	YES	No	No
29CH01:						
29-Chena (90%)-----	No	flood plains	---	---	---	---
29-Jarvis (5%)-----	No	flood plains	---	---	---	---
29-Noonku (5%)-----	Yes	flood plains	2B3,3	YES	No	YES

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
29EL01:						
29-Eielson (60%) -----	No	flood plains	---	---	---	---
29-Fubar, occasionally flooded (5%) -----	No	flood plains	---	---	---	---
29-Noonku (3%) -----	Yes	flood plains	3,2B3	YES	No	YES
29-Piledriver, occasionally flooded (30%) -----	No	flood plains	---	---	---	---
29-Riverwash (2%) -----	Unranked	flood plains	---	---	---	---
29EL02:						
29-Eielson, rarely flooded (50%) -----	No	flood plains	---	---	---	---
29-Liscum (5%) -----	Yes	flood plains	3,2B3	YES	No	YES
29-Noonku (5%) -----	Yes	flood plains	3,2B3	YES	No	YES
29-Tanacross (5%) -----	Yes	flood plains	2B3,3	YES	No	YES
29-Tanana (35%) -----	Yes	flood plains, terraces	2B3,3	YES	No	YES
29FU01:						
29-Eielson (5%) -----	No	flood plains	---	---	---	---
29-Fubar, occasionally flooded (50%) -----	No	flood plains	---	---	---	---
29-Noonku (3%) -----	Yes	flood plains	2B3,3	YES	No	YES
29-Piledriver, occasionally flooded (40%) -----	No	flood plains	---	---	---	---
29-Riverwash (2%) -----	Unranked	flood plains	---	---	---	---
29GE01:						
29-Gerstle (65%) -----	No	stream terraces	---	---	---	---
29-Jarvis (0%) -----	No	flood plains	---	---	---	---
29-Moosehead (30%) -----	No	stream terraces	---	---	---	---
29-Tanana (5%) -----	Yes	flood plains	2B3,3	YES	No	YES
29GE02:						
29-Gerstle (50%) -----	No	alluvial fans	---	---	---	---
29-Salchaket (5%) -----	No	flood plains on alluvial fans	---	---	---	---
29-Tanacross (5%) -----	Yes	flood plains on alluvial fans	2B3,3	YES	No	YES
29-Tanana (40%) -----	Yes	flood plains on alluvial fans	2B3,3	YES	No	YES
29GE04:						
29-Donnelly (10%) -----	No	flood plains on alluvial fans	---	---	---	---
29-Gerstle family (55%) -----	No	flood plains on alluvial fans	---	---	---	---
29-Moosehead (10%) -----	No	flood plains on alluvial fans	---	---	---	---

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
29GE04: 29-Tanacross family (25%) -----	Yes	fan terraces on alluvial fans	2B2	YES	No	No
29JV01: 29-Chena (5%) -----	No	flood plains	---	---	---	---
29-Jarvis (75%) -----	No	flood plains	---	---	---	---
29-Noonku (5%) -----	Yes	flood plains	3,2B3	YES	No	YES
29-Salchaket (10%) -----	No	flood plains	---	---	---	---
29-Tanana (5%) -----	Yes	flood plains	2B3,3	YES	No	YES
29JV02: 29-Jarvis, occasionally flooded (85%) -----	No	flood plains	---	---	---	---
29-Riverwash (10%) -----	Unranked	flood plains	---	---	---	---
29-Salchaket, occasionally flooded (5%) -----	No	flood plains on alluvial fans	---	---	---	---
29JV04: 29-Chena (2%) -----	No	flood plains	---	---	---	---
29-Jarvis (45%) -----	No	flood plains	---	---	---	---
29-Noonku (2%) -----	Yes	flood plains	3,2B3	YES	No	YES
29-North Pole (1%) -----	Yes	flood plains	2B3,3	YES	No	YES
29-Riverwash (0%) -----	Unranked	flood plains	---	---	---	---
29-Salchaket (45%) -----	No	flood plains	---	---	---	---
29-Tanana (5%) -----	Yes	flood plains	2B3,3	YES	No	YES
29JV05: 29-Chena, occasionally flooded (2%) -----	No	flood plains	---	---	---	---
29-Jarvis, occasionally flooded (45%) -----	No	flood plains	---	---	---	---
29-Noonku (2%) -----	Yes	flood plains	3,2B3	YES	No	YES
29-North Pole (1%) -----	Yes	flood plains	2B3,3	YES	No	YES
29-Salchaket, occasionally flooded (45%) -----	No	flood plains	---	---	---	---
29-Tanana, occasionally flooded (5%) -----	Yes	flood plains	2B3,3	YES	No	YES
29KU01: 29-Audrey family (35%) -----	No	flood plains, terraces	---	---	---	---
29-Fubar (5%) -----	No	flood plains	---	---	---	---
29-Koyukuk (50%) -----	No	terraces	---	---	---	---
29-Lupine (5%) -----	No	plains	---	---	---	---

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
29KU01: 29-Piledriver (5%) -----	No	flood plains	---	---	---	---
29KZ01: 29-Histels (30%) -----	Yes	terraces	1	YES	No	No
29-Iksgiza (60%) -----	Yes	plains	2B2	YES	No	No
29-Lupine family (10%) -----	No	plains	---	---	---	---
29KZ02: 29-Beales (10%) -----	No	plains	---	---	---	---
29-Histels (10%) -----	Yes	terraces	1	YES	No	No
29-Iksgiza (45%) -----	Yes	plains	2B2	YES	No	No
29-Lupine family (35%) -----	No	plains	---	---	---	---
29LS03: 29-Liscum (40%) -----	Yes	flood plains	2B3,3	YES	No	YES
29-Mosquito (10%) -----	Yes	flood plains	2B3,3	YES	No	YES
29-Noonku (10%) -----	Yes	flood plains	2B3,3	YES	No	YES
29-Terric Cryohemists (40%) -----	Yes	flood plains	1,3	YES	No	YES
29LU01: 29-Browne (5%) -----	Yes	alluvial fans	2B3	YES	No	No
29-Donnelly (10%) -----	No	alluvial fans	---	---	---	---
29-Lupine (70%) -----	No	fans, fan terraces	---	---	---	---
29-Moosehead (5%) -----	No	alluvial fans, terraces	---	---	---	---
29-Sawmill Creek (5%) -----	No	alluvial fans	---	---	---	---
29-Volkmar (5%) -----	No	stream terraces	---	---	---	---
29LU02: 29-Beales (35%) -----	No	plains	---	---	---	---
29-Bohica (10%) -----	No	plains, terraces	---	---	---	---
29-Gerstle (5%) -----	No	plains	---	---	---	---
29-Lupine family (40%) -----	No	plains	---	---	---	---
29-Moosehead (10%) -----	No	plains	---	---	---	---
29LU03: 29-Beales (35%) -----	No	plains	---	---	---	---
29-Bohica (10%) -----	No	plains, terraces	---	---	---	---
29-Gerstle (5%) -----	No	plains	---	---	---	---

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
29LU03: 29-Lupine family (40%) -----	No	plains	---	---	---	---
29-Moosehead (10%) -----	No	plains	---	---	---	---
29LU04: 29-Beales (10%) -----	No	hills	---	---	---	---
29-Bohica (25%) -----	No	hills	---	---	---	---
29-Gerstle (5%) -----	No	plains	---	---	---	---
29-Iksgiza (15%) -----	Yes	hills	2B2	YES	No	No
29-Lupine family (35%) -----	No	hills	---	---	---	---
29-Lupine family, greater than 12 percent slopes (10%)	No	hills	---	---	---	---
29LU05: 29-Donnelly (10%) -----	No	alluvial fans	---	---	---	---
29-Jarvis (35%) -----	No	flood plains	---	---	---	---
29-Lupine (45%) -----	No	alluvial fans	---	---	---	---
29-Salchaket family (10%) -----	No	flood plains on alluvial fans	---	---	---	---
29MH01: 29-Moosehead family (60%) -----	No	flood plains on alluvial fans	---	---	---	---
29-Nenana (30%) -----	No	fan terraces on alluvial fans	---	---	---	---
29-Tanacross family (10%) -----	Yes	fan terraces on alluvial fans	2B2	YES	No	No
29NE01: 29-Donnelly (5%) -----	No	alluvial fans	---	---	---	---
29-Histic Cryaquepts (2%) -----	Yes	depressions on terraces	2B3,3	YES	No	YES
29-Lupine (5%) -----	No	alluvial fans, fan terraces	---	---	---	---
29-Moosehead (5%) -----	No	alluvial fans, terraces	---	---	---	---
29-Nenana (75%) -----	No	alluvial fans	---	---	---	---
29-Richardson (3%) -----	No	stream terraces	---	---	---	---
29-Sawmill Creek (3%) -----	No	alluvial fans	---	---	---	---
29-Volkmar (2%) -----	No	stream terraces	---	---	---	---
29NE03: 29-Beales (5%) -----	No	plains	---	---	---	---
29-Donnelly (40%) -----	No	plains	---	---	---	---
29-Lupine family (10%) -----	No	plains	---	---	---	---

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
29NE03: 29-Nenana (45%) -----	No	plains	---	---	---	---
29PL01: 29-Eielson, rarely flooded (50%) -----	No	flood plains	---	---	---	---
29-Fubar (3%) -----	No	flood plains	---	---	---	---
29-Noonku (5%) -----	Yes	flood plains	2B3,3	YES	No	YES
29-Piledriver (30%) -----	No	flood plains	---	---	---	---
29-Riverwash (2%) -----	Unranked	flood plains	---	---	---	---
29-Salchaket (5%) -----	No	flood plains	---	---	---	---
29-Tanana (5%) -----	Yes	flood plains, terraces	2B3,3	YES	No	YES
29PT01: 29-Pits, gravel (100%) -----	Unranked	gravel pits	---	---	---	---
29PT02: 29-Pits, quarry (100%) -----	Unranked	quarries	---	---	---	---
29RC01: 29-Gerstle (10%) -----	No	plains	---	---	---	---
29-Richardson (55%) -----	No	plains	---	---	---	---
29-Salchaket, occasionally flooded (25%) -----	No	flood plains	---	---	---	---
29-Volkmar (10%) -----	No	plains	---	---	---	---
29SA01: 29-Browne (5%) -----	Yes	alluvial fans	2B3	YES	No	No
29-Gerstle (10%) -----	No	alluvial fans, terraces	---	---	---	---
29-Sawmill Creek (85%) -----	No	alluvial fans	---	---	---	---
29SC01: 29-Hogan family (30%) -----	No	flood plains on alluvial fans	---	---	---	---
29-Salchaket family (65%) -----	No	flood plains on alluvial fans	---	---	---	---
29-Tanacross family (5%) -----	Yes	fan terraces on alluvial fans	2B2	YES	No	No
29SC02: 29-Chena (0%) -----	No	flood plains	---	---	---	---
29-Jarvis (10%) -----	No	flood plains	---	---	---	---
29-Salchaket (85%) -----	No	flood plains	---	---	---	---
29-Tanana (5%) -----	Yes	flood plains	2B3,3	YES	No	YES

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
29SC03:						
29-Jarvis, occasionally flooded (10%) -----	No	flood plains	---	---	---	---
29-Salchaket, occasionally flooded (85%) -----	No	flood plains	---	---	---	---
29-Tanana, occasionally flooded (5%) -----	Yes	flood plains on alluvial fans	2B3,3	YES	No	YES
29TC01:						
29-Eielson, rarely flooded (5%) -----	No	flood plains	---	---	---	---
29-Jarvis (5%) -----	No	flood plains, terraces	---	---	---	---
29-Liscum (5%) -----	Yes	flood plains	2B3,3	YES	No	YES
29-Noonku (5%) -----	Yes	flood plains	3,2B3	YES	No	YES
29-Tanacross (75%) -----	Yes	flood plains	2B3,3	YES	No	YES
29-Tanana (5%) -----	Yes	flood plains, terraces	2B3,3	YES	No	YES
29TC02:						
29-Donnelly (5%) -----	No	fan terraces on alluvial fans	---	---	---	---
29-Moosehead (30%) -----	No	alluvial fans	---	---	---	---
29-Moosehead family (10%) -----	No	flood plains on alluvial fans	---	---	---	---
29-Tanacross family (55%) -----	Yes	fan terraces on alluvial fans	2B2	YES	No	No
29TC03:						
29-Browne (5%) -----	Yes	plains	2B3	YES	No	No
29-Histels (45%) -----	Yes	terraces	1	YES	No	No
29-Tanacross, occasionally flooded (50%) -----	Yes	flood plains	2B2	YES	No	No
29TN01:						
29-Jarvis (5%) -----	No	terraces on flood plains	---	---	---	---
29-Noonku (5%) -----	Yes	flood plains	3,2B3	YES	No	YES
29-Tanacross (10%) -----	Yes	flood plains	2B3,3	YES	No	YES
29-Tanana (80%) -----	Yes	flood plains, terraces	2B3,3	YES	No	YES
29TS01:						
29-Terric Sapristels (90%) -----	Yes	plains	1	YES	No	No
29-Windy Creek (10%) -----	Yes	plains	2B3	YES	No	No
29VM01:						
29-Richardson (5%) -----	No	stream terraces	---	---	---	---
29-Tanana (5%) -----	Yes	flood plains	2B3,3	YES	No	YES
29-Volkmar (90%) -----	No	stream terraces	---	---	---	---



Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
29WR01:						
29-Eielson (5%) -----	No	flood plains	---	---	---	---
29-Jarvis (3%) -----	No	flood plains	---	---	---	---
29-Piledriver (5%) -----	No	flood plains	---	---	---	---
29-Riverwash (40%) -----	Unranked	flood plains	---	---	---	---
29-Salchaket (2%) -----	No	flood plains	---	---	---	---
29-Water (45%) -----	Unranked	ivers, streams	---	---	---	---
31AN02:						
31-Angel (45%) -----	No	hills	---	---	---	---
31-Angel, less than 15 percent slopes (5%) -----	No	hills	---	---	---	---
31-McCloud (45%) -----	No	hills	---	---	---	---
31-McCloud, less than 15 percent slope (5%) -----	No	hills	---	---	---	---
31AN03:						
31-Angel (55%) -----	No	hills	---	---	---	---
31-Angel, greater than 15 percent slopes (3%) -----	No	hills	---	---	---	---
31-McCloud (40%) -----	No	hills	---	---	---	---
31-McCloud, greater than 15 percent slopes (2%) -----	No	hills	---	---	---	---
31BR01:						
31-Brigadier (45%) -----	No	hills	---	---	---	---
31-Brigadier, less than 15 percent slopes (5%) -----	No	hills	---	---	---	---
31-Ester (40%) -----	Yes	hills	2B3	YES	No	No
31-Ester, greater than 45 percent slopes (5%) -----	Yes	hills	2B3	YES	No	No
31-Gilmore (2%) -----	No	hills	---	---	---	---
31-Manchu (2%) -----	No	hills	---	---	---	---
31-Saulich (1%) -----	Yes	hills	2B3	YES	No	No
31BR02:						
31-Brigadier (45%) -----	No	hills	---	---	---	---
31-Brigadier, less than 45 percent slopes (5%) -----	No	hills	---	---	---	---
31-Ester (40%) -----	Yes	hills	2B3	YES	No	No
31-Ester, less than 45 percent slopes (5%) -----	Yes	hills	2B3	YES	No	No
31-Gilmore (2%) -----	No	hills	---	---	---	---
31-Manchu (3%) -----	No	hills	---	---	---	---

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
31BR08:						
31-Brigadier (45%) -----	No	hills	---	---	---	---
31-Gilmore (10%) -----	No	hills	---	---	---	---
31-Manchu (40%) -----	No	hills	---	---	---	---
31-Steese (5%) -----	No	hills	---	---	---	---
31BR09:						
31-Brigadier (60%) -----	No	hills	---	---	---	---
31-Gilmore (10%) -----	No	hills	---	---	---	---
31-Manchu (25%) -----	No	hills	---	---	---	---
31-Steese (5%) -----	No	hills	---	---	---	---
31CH04:						
31-Chatanika (45%) -----	Yes	hills	2B3	YES	No	No
31-Chatanika, greater than 5 percent slopes (5%) -----	Yes	hills	2B3	YES	No	No
31-Goldstream (40%) -----	Yes	valley floors	2B3,3	YES	No	YES
31-Histels (5%) -----	Yes	depressions on terraces, flats on terraces	2B3,1,3	YES	No	YES
31-Minto (3%) -----	No	hills	---	---	---	---
31-Saulich (2%) -----	Yes	hills	2B3	YES	No	No
31-Water (0%) -----	Unranked	lakes on flood plains, depressions on flood plains	---	---	---	---
31ES01:						
31-Brigadier (5%) -----	No	hills	---	---	---	---
31-Ester (75%) -----	Yes	hills	2B3	YES	No	No
31-Ester, greater than 45 percent slopes (5%) -----	Yes	hills	2B3	YES	No	No
31-Ester, less than 20 percent slopes (5%) -----	Yes	hills	2B3	YES	No	No
31-Saulich (5%) -----	Yes	hills	2B3	YES	No	No
31-Steese (5%) -----	No	hills	---	---	---	---
31FA02:						
31-Fairbanks (80%) -----	No	hills	---	---	---	---
31-Fairbanks, greater than 12 percent slopes (5%) -----	No	hills	---	---	---	---
31-Fairbanks, less than 7 percent slopes (5%) -----	No	hills	---	---	---	---
31-Minto (5%) -----	No	hills	---	---	---	---

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
31FA02: 31-Steese (5%) -----	No	hills	---	---	---	---
31FA03: 31-Fairbanks (70%)-----	No	hills	---	---	---	---
31-Fairbanks, greater than 20 percent slopes (10%) -----	No	hills	---	---	---	---
31-Fairbanks, less than 12 percent slopes (9%) -----	No	hills	---	---	---	---
31-Minto (6%) -----	No	hills	---	---	---	---
31-Steese (5%) -----	No	hills	---	---	---	---
31FA04: 31-Fairbanks (80%)-----	No	hills	---	---	---	---
31-Fairbanks, greater than 30 percent slopes (5%)-----	No	hills	---	---	---	---
31-Fairbanks, less than 20 percent slopes (10%) -----	No	hills	---	---	---	---
31-Steese (5%) -----	No	hills	---	---	---	---
31FA05: 31-Fairbanks (85%)-----	No	hills	---	---	---	---
31-Fairbanks, greater than 45 percent slopes (5%)-----	No	hills	---	---	---	---
31-Fairbanks, less than 30 percent slopes (5%) -----	No	hills	---	---	---	---
31-Steese (5%) -----	No	hills	---	---	---	---
31FA07: 31-Fairbanks, gullied (60%) -----	No	hills	---	---	---	---
31-Fairbanks, gullied, steep (30%) -----	No	hills	---	---	---	---
31-Minto (5%) -----	No	hills	---	---	---	---
31-Steese (3%) -----	No	hills	---	---	---	---
31-Typic Cryaquents (2%) -----	Yes	valley floors	2B3,3	YES	No	YES
31FA11: 31-Fairbanks (40%)-----	No	hills	---	---	---	---
31-Fairbanks, less than 20 percent slopes (10%) -----	No	hills	---	---	---	---
31-Gilmore (5%) -----	No	hills	---	---	---	---
31-Steese (35%)-----	No	hills	---	---	---	---
31-Steese, greater than 30 percent slopes (5%)-----	No	hills	---	---	---	---
31-Steese, less than 20 percent slopes (5%)-----	No	hills	---	---	---	---

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
31GD01:						
31-Chatanika (5%) -----	Yes	hills	2B3	YES	No	No
31-Goldstream (80%) -----	Yes	valley floors	2B3,3	YES	No	YES
31-Goldstream, greater than 3 percent slopes (2%) -----	Yes	valley floors	2B3,3	YES	No	YES
31-Happy (2%) -----	No	natural levees on flood plains	---	---	---	---
31-Histels (5%) -----	Yes	depressions on terraces, flats on terraces	2B3,1,3	YES	No	YES
31-Saulich (5%) -----	Yes	hills	2B3	YES	No	No
31-Typic Cryaquents (1%) -----	Yes	depressions	3,2B3	YES	No	YES
31GD02:						
31-Chatanika (10%) -----	Yes	hills	2B3	YES	No	No
31-Goldstream (75%) -----	Yes	valley floors	2B3,3	YES	No	YES
31-Goldstream, less than 3 percent slopes (3%) -----	Yes	valley floors	2B3,3	YES	No	YES
31-Histels (5%) -----	Yes	depressions on terraces, flats on terraces	2B3,1,3	YES	No	YES
31-Minto (4%) -----	No	hills	---	---	---	---
31-Saulich (2%) -----	Yes	hills	2B3	YES	No	No
31-Typic Cryaquents (1%) -----	Yes	depressions	3,2B3	YES	No	YES
31GD03:						
31-Chatanika (10%) -----	Yes	hills	2B3	YES	No	No
31-Goldstream (55%) -----	Yes	valley floors	2B3,3	YES	No	YES
31-Histels (30%) -----	Yes	depressions on terraces, flats on terraces	2B3,1,3	YES	No	YES
31-Terric Cryofibrists (5%) -----	Yes	thermokarst depressions	3,1	YES	No	YES
31GL02:						
31-Gilmore (70%) -----	No	hills	---	---	---	---
31-Gilmore, greater than 12 percent slopes (13%) -----	No	hills	---	---	---	---
31-Gilmore, less than 7 percent slopes (10%)  No -----	No	hills	---	---	---	---
31-Steese (7%) -----	No	hills	---	---	---	---
31GL03:						
31-Brigadier (2%) -----	No	hills	---	---	---	---
31-Ester (3%) -----	Yes	hills	2B3	YES	No	No
31-Gilmore (75%) -----	No	hills	---	---	---	---

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
31GL03:						
31-Gilmore, greater than 20 percent slopes (10%)-----	No	hills	---	---	---	---
31-Gilmore, less than 12 percent slopes (5%)-----	No	hills	---	---	---	---
31-Steese (5%) -----	No	hills	---	---	---	---
31GL04:						
31-Brigadier (2%)-----	No	hills	---	---	---	---
31-Ester (3%)-----	Yes	hills	2B3	YES	No	No
31-Gilmore (75%) -----	No	hills	---	---	---	---
31-Gilmore, greater than 30 percent slopes (5%) -----	No	hills	---	---	---	---
31-Gilmore, less than 20 percent slopes (10%)-----	No	hills	---	---	---	---
31-Steese (5%) -----	No	hills	---	---	---	---
31GL05:						
31-Brigadier (2%)-----	No	hills	---	---	---	---
31-Ester (3%)-----	Yes	hills	2B3	YES	No	No
31-Gilmore (85%) -----	No	hills	---	---	---	---
31-Gilmore, less than 30 percent slopes (5%)-----	No	hills	---	---	---	---
31-Rock outcrop (2%)-----	Unranked	hills	---	---	---	---
31-Steese (3%) -----	No	hills	---	---	---	---
31GL06:						
31-Ester (5%)-----	Yes	hills	2B3	YES	No	No
31-Gilmore (85%) -----	No	hills	---	---	---	---
31-Gilmore, less than 45 percent slopes (5%)  No -----	No	hills	---	---	---	---
31-Rock outcrop (2%)-----	Unranked	hills	---	---	---	---
31-Steese (3%) -----	No	hills	---	---	---	---
31HA01:						
31-Aquic Cryofluvents (3%)-----	No	flood plains	---	---	---	---
31-Chatanika (2%)-----	Yes	hills	2B3	YES	No	No
31-Goldstream (5%) -----	Yes	valley floors	2B3,3	YES	No	YES
31-Happy (80%) -----	No	natural levees on flood plains	---	---	---	---
31-Histels (5%)-----	Yes	depressions on terraces, flats on terraces	2B3,1,3	YES	No	YES

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
31HA01: 31-Water (5%)-----	Unranked	streams on flood plains, rivers on flood plains, depressions on flood plains, lakes on flood plains	---	---	---	---
31MC01: 31-Angel (10%) -----	No	hills	---	---	---	---
31-McCloud (85%) -----	No	hills	---	---	---	---
31-McCloud, greater than 20 percent slopes (3%) -----	No	hills	---	---	---	---
31-McCloud, less than 7 percent slopes (2%) -----	No	hills	---	---	---	---
31MC02: 31-Angel (10%) -----	No	hills	---	---	---	---
31-McCloud (85%) -----	No	hills	---	---	---	---
31-McCloud, greater than 30 percent slopes (2%) -----	No	hills	---	---	---	---
31-McCloud, less than 20 percent slopes (3%) -----	No	hills	---	---	---	---
31MC03: 31-Fairbanks (45%)-----	No	hills	---	---	---	---
31-McCloud (50%) -----	No	hills	---	---	---	---
31-Minto (5%) -----	No	hills	---	---	---	---
31MN01: 31-Chatanika (10%) -----	Yes	hills	2B3	YES	No	No
31-Fairbanks (5%) -----	No	hills	---	---	---	---
31-Minto (80%)-----	No	hills	---	---	---	---
31-Minto, greater than 3 percent slopes (5%) -----	No	hills	---	---	---	---
31MN02: 31-Chatanika (5%) -----	Yes	hills	2B3	YES	No	No
31-Fairbanks (5%) -----	No	hills	---	---	---	---
31-Minto (80%)-----	No	hills	---	---	---	---
31-Minto, greater than 7 percent slopes (5%) -----	No	hills	---	---	---	---
31-Minto, less than 3 percent slopes (5%) -----	No	hills	---	---	---	---
31MN03: 31-Chatanika (5%) -----	Yes	hills	2B3	YES	No	No
31-Fairbanks (5%) -----	No	hills	---	---	---	---
31-Minto (65%)-----	No	hills	---	---	---	---

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
31MN03:						
31-Minto, greater than 12 percent slopes (10%) -----	No	hills	---	---	---	---
31-Minto, less than 7 percent slopes (10%) -----	No	hills	---	---	---	---
31-Saulich (5%) -----	Yes	hills	2B3	YES	No	No
31MN04:						
31-Chatanika (5%) -----	Yes	hills	2B3	YES	No	No
31-Minto (80%) -----	No	hills	---	---	---	---
31-Minto, less than 12 percent slopes (10%) -----	No	hills	---	---	---	---
31-Typic Cryaquents (5%) -----	Yes	depressions	3,2B3	YES	No	YES
31MN05:						
31-Chatanika (40%) -----	Yes	hills	2B3	YES	No	No
31-Chatanika, greater than 3 percent slopes (5%) -----	Yes	hills	2B3	YES	No	No
31-Goldstream (5%) -----	Yes	valley floors	2B3,3	YES	No	YES
31-Minto (45%) -----	No	hills	---	---	---	---
31-Minto, greater than 3 percent slopes (5%) -----	No	hills	---	---	---	---
31MN06:						
31-Chatanika (35%) -----	Yes	hills	2B3	YES	No	No
31-Chatanika, greater than 7 percent slopes (2%) -----	Yes	hills	2B3	YES	No	No
31-Chatanika, less than 3 percent slopes (2%) -----	Yes	hills	2B3	YES	No	No
31-Goldstream (2%) -----	Yes	valley floors	2B3,3	YES	No	YES
31-Minto (40%) -----	No	hills	---	---	---	---
31-Minto, greater than 7 percent slopes (7%) -----	No	hills	---	---	---	---
31-Minto, less than 3 percent slopes (7%) -----	No	hills	---	---	---	---
31-Saulich (5%) -----	Yes	hills	2B3	YES	No	No
31MN07:						
31-Chatanika (40%) -----	Yes	hills	2B3	YES	No	No
31-Chatanika, less than 7 percent slopes (5%) -----	Yes	hills	2B3	YES	No	No
31-Minto (45%) -----	No	hills	---	---	---	---
31-Minto, greater than 12 percent slopes (5%) -----	No	hills	---	---	---	---
31-Minto, less than 7 percent slopes (5%) -----	No	hills	---	---	---	---

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
31RS01:						
31-Rock outcrop (5%) -----	Unranked	hills	---	---	---	---
31-Rosie (95%) -----	No	hills	---	---	---	---
31SA06:						
31-Chatanika (5%) -----	Yes	hills	2B3	YES	No	No
31-Goldstream (2%) -----	Yes	valley floors	2B3,3	YES	No	YES
31-Minto (35%) -----	No	hills	---	---	---	---
31-Minto, greater than 12 percent slopes (5%) -----	No	hills	---	---	---	---
31-Minto, less than 7 percent slopes (5%) -----	No	hills	---	---	---	---
31-Saulich (40%) -----	Yes	hills	2B3	YES	No	No
31-Saulich, greater than 12 percent slopes (5%) -----	Yes	hills	2B3	YES	No	No
31-Saulich, less than 7 percent slopes (3%) -----	Yes	hills	2B3	YES	No	No
31SA08:						
31-Chatanika (35%) -----	Yes	hills	2B3	YES	No	No
31-Goldstream (10%) -----	Yes	hills	2B3,3	YES	No	YES
31-Minto (10%) -----	No	hills	---	---	---	---
31-Saulich (45%) -----	Yes	hills	2B3	YES	No	No
31SR02:						
31-Fairbanks (10%) -----	No	hills	---	---	---	---
31-Minto (5%) -----	No	hills	---	---	---	---
31-Strelina (85%) -----	No	hills	---	---	---	---
31SR03:						
31-Fairbanks (10%) -----	No	hills	---	---	---	---
31-Manchu (10%) -----	No	hills	---	---	---	---
31-Strelina (80%) -----	No	hills	---	---	---	---
31SR04:						
31-Fairbanks (5%) -----	No	hills	---	---	---	---
31-Minto (10%) -----	No	hills	---	---	---	---
31-Strelina (85%) -----	No	hills	---	---	---	---
31SR05:						
31-Fairbanks (5%) -----	No	hills	---	---	---	---
31-Strelina (70%) -----	No	hills	---	---	---	---
31-Toghotthele (25%) -----	No	hills	---	---	---	---



Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
31ST01:						
31-Fairbanks (5%) -----	No	hills	---	---	---	---
31-Gilmore (5%) -----	No	hills	---	---	---	---
31-Steese (80%)-----	No	hills	---	---	---	---
31-Steese, greater than 7 percent slopes (10%)-----	No	hills	---	---	---	---
31ST02:						
31-Fairbanks (5%) -----	No	hills	---	---	---	---
31-Gilmore (5%) -----	No	hills	---	---	---	---
31-Steese (80%)-----	No	hills	---	---	---	---
31-Steese, greater than 12 percent slopes (5%)-----	No	hills	---	---	---	---
31-Steese, less than 7 percent slopes (5%) -----	No	hills	---	---	---	---
31ST03:						
31-Fairbanks (6%) -----	No	hills	---	---	---	---
31-Gilmore (5%) -----	No	hills	---	---	---	---
31-Steese (80%)-----	No	hills	---	---	---	---
31-Steese, greater than 20 percent slopes (4%)-----	No	hills	---	---	---	---
31-Steese, less than 12 percent slopes (5%)-----	No	hills	---	---	---	---
31ST04:						
31-Ester (2%)-----	Yes	hills	2B2,2B3	YES	No	No
31-Fairbanks (3%) -----	No	hills	---	---	---	---
31-Gilmore (5%) -----	No	hills	---	---	---	---
31-Steese (80%)-----	No	hills	---	---	---	---
31-Steese, greater than 30 percent slopes (5%)-----	No	hills	---	---	---	---
31-Steese, less than 20 percent slopes (5%)-----	No	hills	---	---	---	---
31ST05:						
31-Ester (2%)-----	Yes	hills	2B3,2B2	YES	No	No
31-Fairbanks (3%) -----	No	hills	---	---	---	---
31-Gilmore (5%) -----	No	hills	---	---	---	---
31-Steese (80%)-----	No	hills	---	---	---	---
31-Steese, less than 30 percent slopes (10%) -----	No	hills	---	---	---	---

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
31ST06:						
31-Gilmore (5%) -----	No	hills	---	---	---	---
31-Steese (90%)-----	No	hills	---	---	---	---
31-Steese, less than 45 percent slopes (5%)-----	No	hills	---	---	---	---
31ST08:						
31-Fairbanks (5%) -----	No	hills	---	---	---	---
31-Gilmore (30%) -----	No	hills	---	---	---	---
31-Gilmore, less than 12 percent slopes (5%)-----	No	hills	---	---	---	---
31-Steese (50%)-----	No	hills	---	---	---	---
31-Steese, greater than 20 percent slopes (5%)-----	No	hills	---	---	---	---
31-Steese, less than 12 percent slopes (5%)-----	No	hills	---	---	---	---
31ST09:						
31-Fairbanks (3%) -----	No	hills	---	---	---	---
31-Gilmore (40%) -----	No	hills	---	---	---	---
31-Gilmore, less than 20 percent slopes (5%)  No -----	hills	---	---	---	---	---
31-Steese (45%)-----	No	hills	---	---	---	---
31-Steese, greater than 30 percent slopes (2%)-----	No	hills	---	---	---	---
31-Steese, less than 20 percent slopes (5%)-----	No	hills	---	---	---	---
31ST10:						
31-Gilmore (40%) -----	No	hills	---	---	---	---
31-Gilmore, less than 30 percent slopes (5%)-----	No	hills	---	---	---	---
31-Steese (45%)-----	No	hills	---	---	---	---
31-Steese, greater than 45 percent slopes (5%)-----	No	hills	---	---	---	---
31-Steese, less than 30 percent slopes (5%)-----	No	hills	---	---	---	---
31ST11:						
31-Gilmore (40%) -----	No	hills	---	---	---	---
31-Gilmore, less than 45 percent slopes (5%)-----	No	hills	---	---	---	---
31-Steese (50%)-----	No	hills	---	---	---	---
31-Steese, less than 45 percent slopes (5%)-----	No	hills	---	---	---	---
31TG01:						
31-Fairbanks (3%) -----	No	hills	---	---	---	---
31-Gilmore (2%) -----	No	hills	---	---	---	---

Table 16. Hydric Soils List--Continued

Map symbol and soil name (percent composition)	Hydric soil	Local landform	Hydric soils criteria			
			Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
31TG01:						
31-Rosie (3%) -----	No	hills	---	---	---	---
31-Steese (2%) -----	No	hills	---	---	---	---
31-Toghotthele (90%) -----	No	climbing dunes on hills	---	---	---	---
31TG02:						
31-Fairbanks (30%) -----	No	hills	---	---	---	---
31-Minto (10%) -----	No	hills	---	---	---	---
31-Strelina (10%) -----	No	hills	---	---	---	---
31-Toghotthele (50%) -----	No	hills	---	---	---	---
31TG03:						
31-Fairbanks (35%) -----	No	hills	---	---	---	---
31-Strelina (10%) -----	No	hills	---	---	---	---
31-Toghotthele (45%) -----	No	hills	---	---	---	---
31TG04:						
31-Fairbanks (30%) -----	No	hills	---	---	---	---
31-Minto (10%) -----	No	hills	---	---	---	---
31-Strelina (10%) -----	No	hills	---	---	---	---
31-Toghotthele (50%) -----	No	hills	---	---	---	---
31TG05:						
31-Fairbanks (30%) -----	No	hills	---	---	---	---
31-Minto (10%) -----	No	hills	---	---	---	---
31-Strelina (10%) -----	No	hills	---	---	---	---
31-Toghotthele (50%) -----	No	hills	---	---	---	---
R29WAA:						
29-Beaches (5%) -----	Unranked	beaches	---	---	---	---
29-Water (95%) -----	Unranked	lakes	---	---	---	---
R31WAA:						
29-Beaches (2%) -----	Unranked	beaches	---	---	---	---
29-Water (98%) -----	Unranked	lakes	---	---	---	---

Table 17. Classification of the Soils

Soil name	Family or higher taxonomic class
28Audrey -----	Coarse-loamy, mixed, superactive Aquic Haplocryepts
28Butchlake-----	Loamy-skeletal, mixed, superactive Typic Haplocryepts
28Salchaket family-----	Coarse-loamy, mixed, superactive, nonacid Typic Cryofluvents
28Southpaw -----	Coarse-loamy, mixed, superactive Typic Haplocryepts
28Terric Hemistels -----	Terric Hemistels
28Typic Aquiturbels-----	Typic Aquiturbels
29Aquic Cryofluvents-----	Aquic Cryofluvents
29Aquic Haplocryepts-----	Aquic Haplocryepts
29Audrey family-----	Coarse-loamy, mixed, superactive Aquic Haplocryepts
29Beales-----	Sandy, mixed Typic Haplocryepts
29Bohica-----	Coarse-loamy, mixed, superactive Typic Haplocryepts
29Browne-----	Coarse-silty, mixed, active, subgelic Typic Aquiturbels
29Chena-----	Sandy-skeletal, mixed Typic Cryorthents
29Donnelly -----	Sandy-skeletal, mixed Typic Haplocryepts
29Eielson-----	Coarse-loamy, mixed, superactive, nonacid Aquic Cryofluvents
29Fubar -----	Sandy-skeletal, mixed Typic Cryofluvents
29Gerstle -----	Coarse-loamy, mixed, superactive Aquic Haplocryepts
29Gerstle family -----	Coarse-loamy, mixed, superactive Aquic Haplocryepts
29Histels-----	Histels
29Histic Cryaquepts -----	Histic Cryaquepts
29Hogan family -----	Coarse-loamy, mixed, superactive, subgelic Typic Haplorthels
29Iksgiza -----	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, subgelic Typic Histoturbels
29Jarvis -----	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, nonacid Typic Cryofluvents
29Koyukuk -----	Coarse-silty, mixed, superactive Typic Haplocryepts
29Liscum -----	Coarse-loamy, mixed, superactive, nonacid Histic Cryaquepts
29Lupine-----	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive Typic Haplocryepts
29Lupine family -----	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive Typic Haplocryepts
29Moosehead -----	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive Fluventic Haplocryepts
29Moosehead family -----	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive Fluventic Haplocryepts
29Mosquito-----	Coarse-loamy, mixed, superactive, subgelic Ruptic Histoturbels
29Nenana -----	Coarse-silty over sandy or sandy-skeletal, mixed, superactive Typic Haplocryepts
29Noonku -----	Coarse-loamy, mixed, superactive, nonacid Typic Cryaquepts
29North Pole-----	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, nonacid Aeris Cryaquepts
29Piledriver -----	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, nonacid Aquic Cryofluvents
29Richardson-----	Coarse-silty, mixed, superactive Aquic Haplocryepts
29Salchaket-----	Coarse-loamy, mixed, superactive, nonacid Typic Cryofluvents
29Salchaket family-----	Coarse-loamy, mixed, superactive, nonacid Typic Cryofluvents
29Sawmill Creek-----	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive Typic Haplocryepts
29Tanacross-----	Coarse-loamy, mixed, superactive, subgelic Typic Histoturbels
29Tanacross family -----	Coarse-loamy, mixed, superactive, subgelic Typic Histoturbels
29Tanana-----	Coarse-loamy, mixed, superactive, subgelic Typic Aquiturbels
29Terric Cryohemists -----	Terric Cryohemists
29Terric Sapristels -----	Terric Sapristels
29Typic Cryaquepts -----	Typic Cryaquepts
29Volkmar -----	Coarse-silty over sandy or sandy-skeletal, mixed, superactive Aquic Haplocryepts
29Windy Creek-----	Coarse-silty, mixed, active, subgelic Typic Histoturbels
31Angel -----	Loamy-skeletal, mixed, superactive, shallow Typic Dystrocryepts
31Aquic Cryofluvents-----	Aquic Cryofluvents
31Brigadier-----	Loamy-skeletal, mixed, superactive, shallow Typic Dystrocryepts
31Chatanika -----	Coarse-silty, mixed, superactive, subgelic Typic Aquiturbels
31Ester-----	Loamy-skeletal, mixed, superactive, subgelic, shallow Typic Histoturbels
31Fairbanks-----	Coarse-silty, mixed, superactive Typic Haplocryepts
31Gilmore-----	Loamy-skeletal, mixed, superactive, shallow Typic Dystrocryepts
31Goldstream -----	Coarse-silty, mixed, superactive, subgelic Typic Histoturbels
31Happy -----	Coarse-silty, mixed, superactive, subgelic Fluvaquentic Aquorthels
31Histels-----	Histels
31Manchu -----	Coarse-loamy, mixed, superactive Aquic Haplocryepts
31McCloud-----	Coarse-loamy, mixed, superactive Typic Dystrocryepts
31Minto -----	Coarse-silty, mixed, superactive Aquic Haplocryepts
31Rosie -----	Coarse-loamy, mixed, superactive Ustic Calcicryolls
31Saulich -----	Coarse-silty, mixed, superactive, subgelic Typic Histoturbels

Table 17. Classification of the Soils—Continued

Soil name	Family or higher taxonomic class
31Steese -----	Coarse-loamy, mixed, superactive Typic Haplocryepts
31Strelna -----	Coarse-silty, mixed, superactive, subgelic Typic Histoturbels
31Terric Cryofibrists -----	Terric Cryofibrists
31Toghotthele -----	Coarse-silty, mixed, superactive Typic Haplocryepts
31Typic Cryaquents -----	Typic Cryaquents

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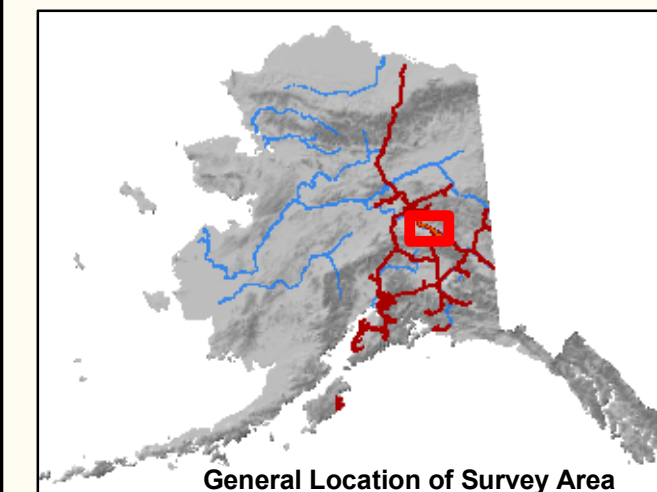
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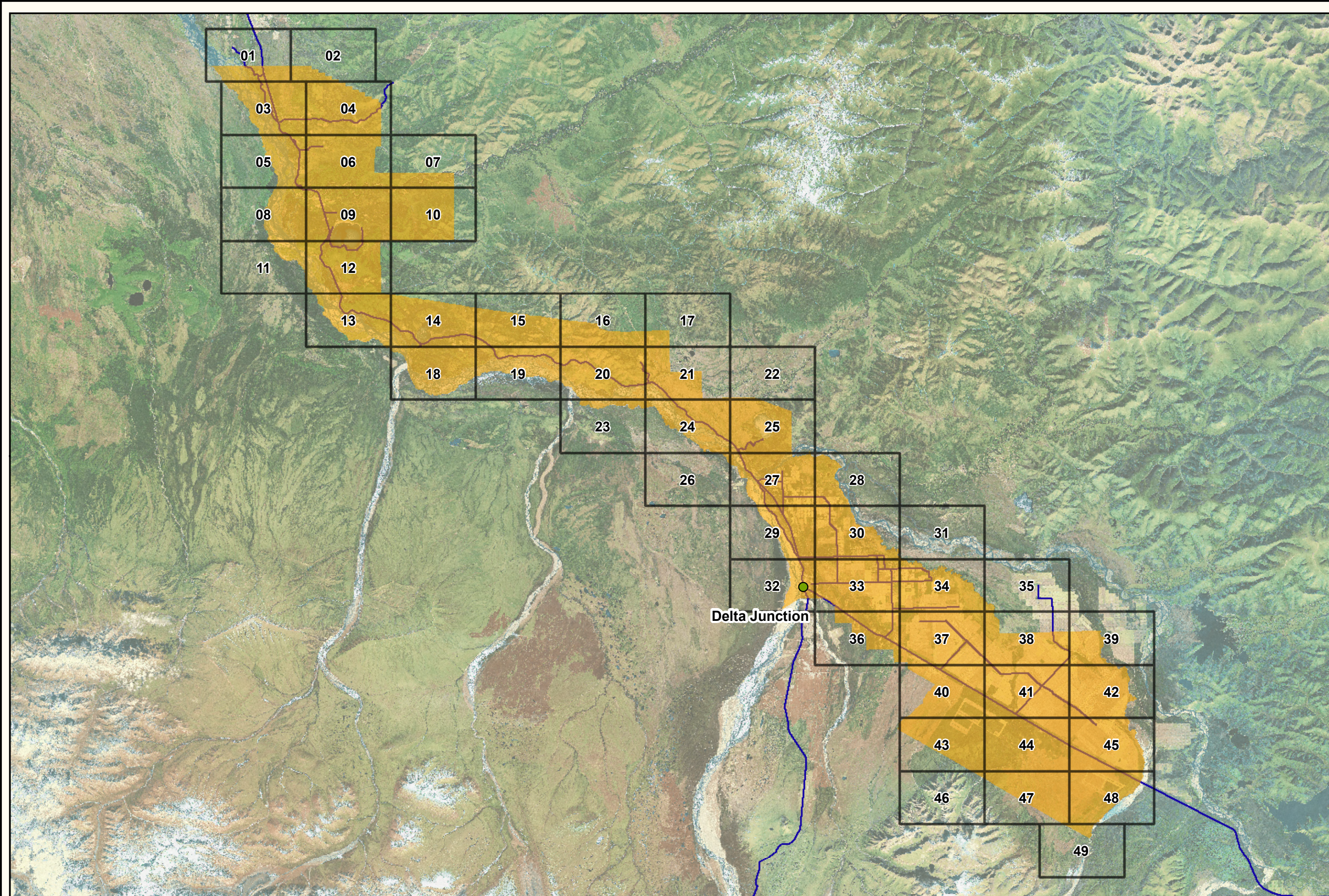


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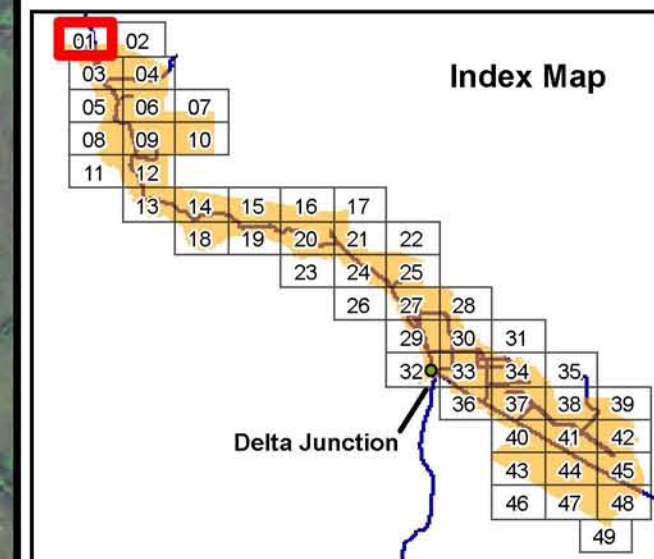
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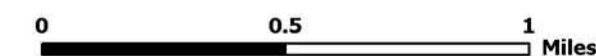


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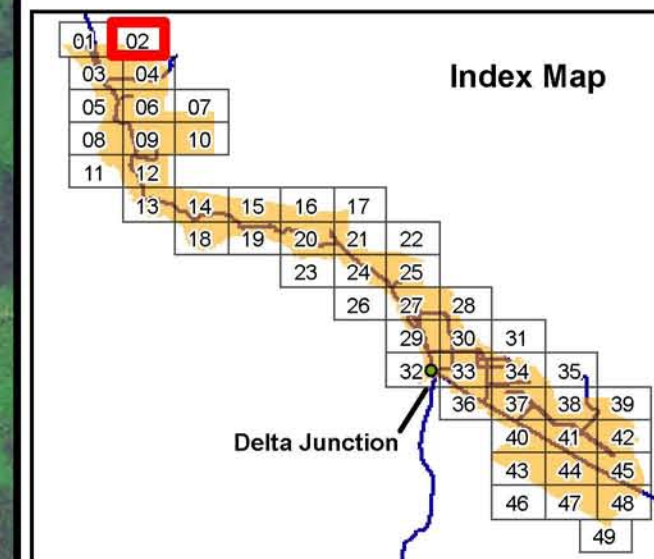
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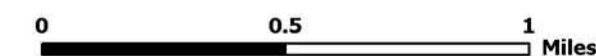


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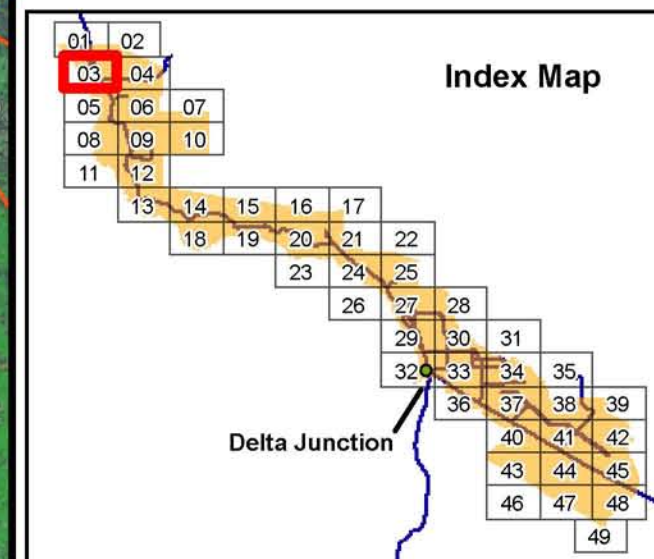
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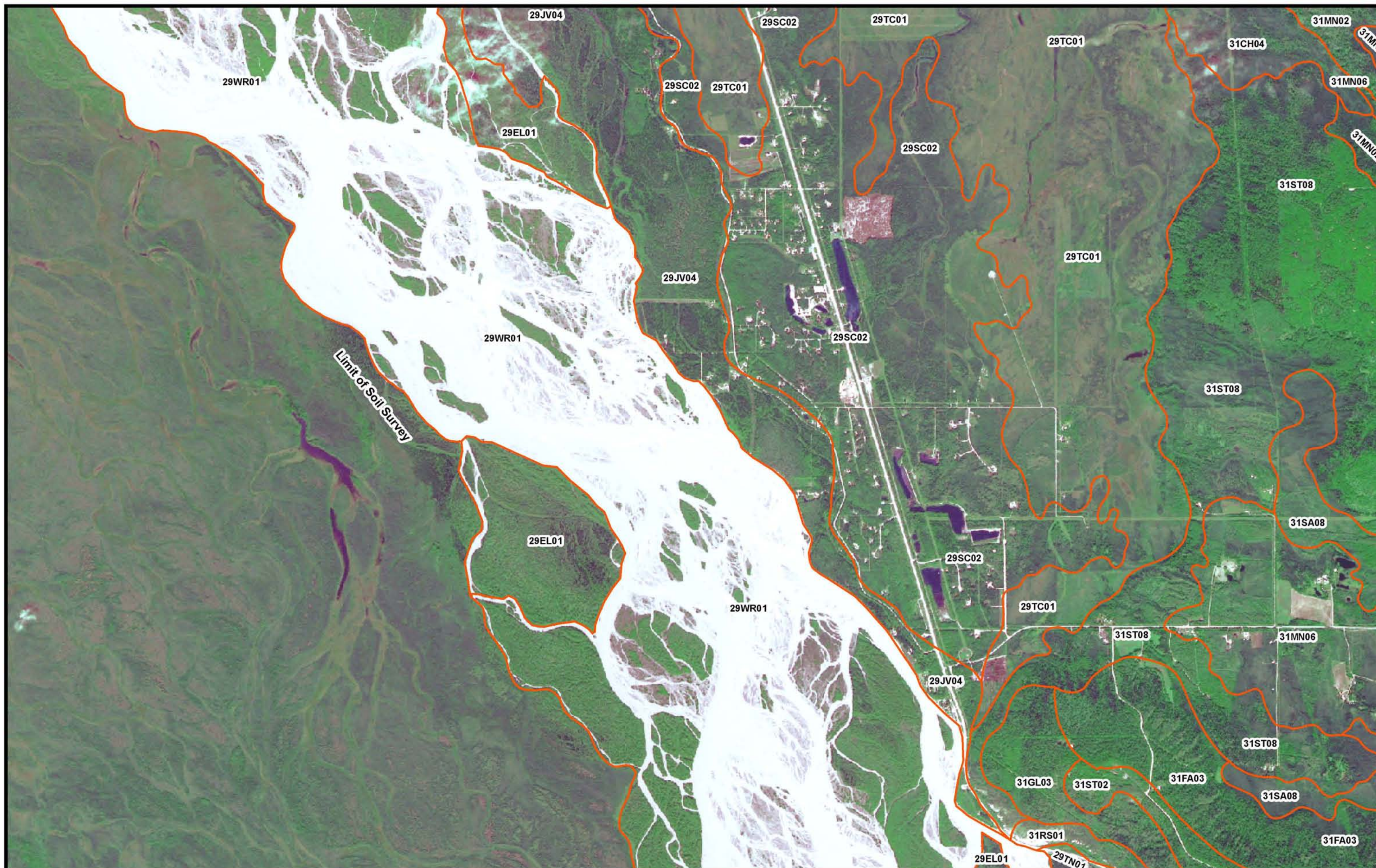
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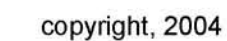


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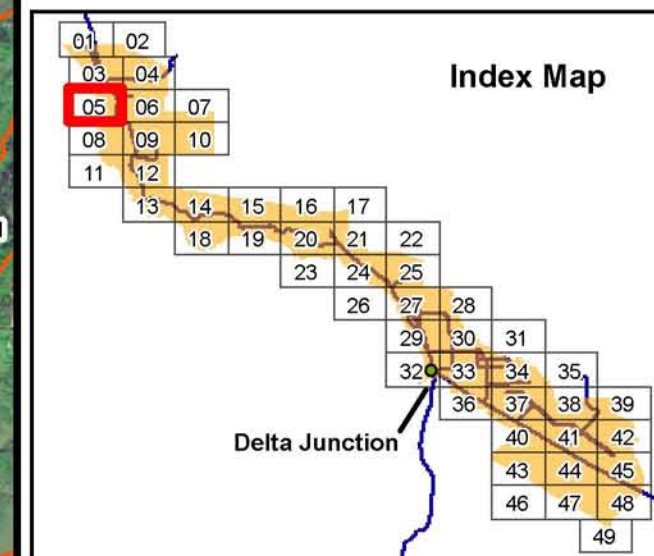
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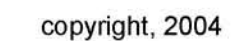


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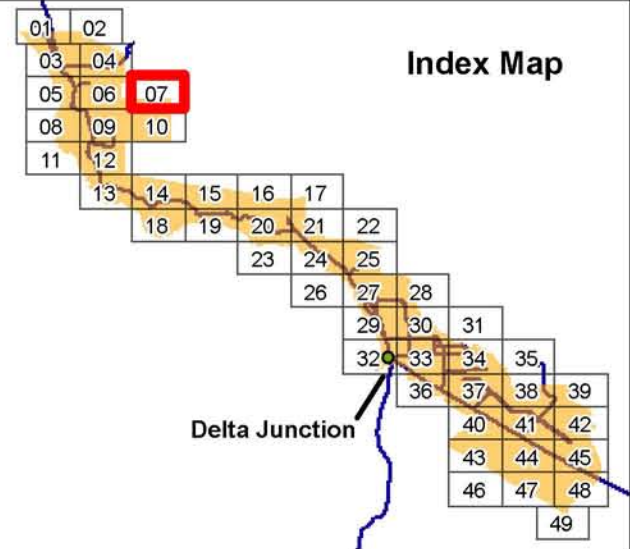
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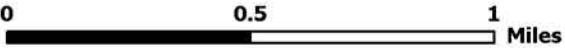


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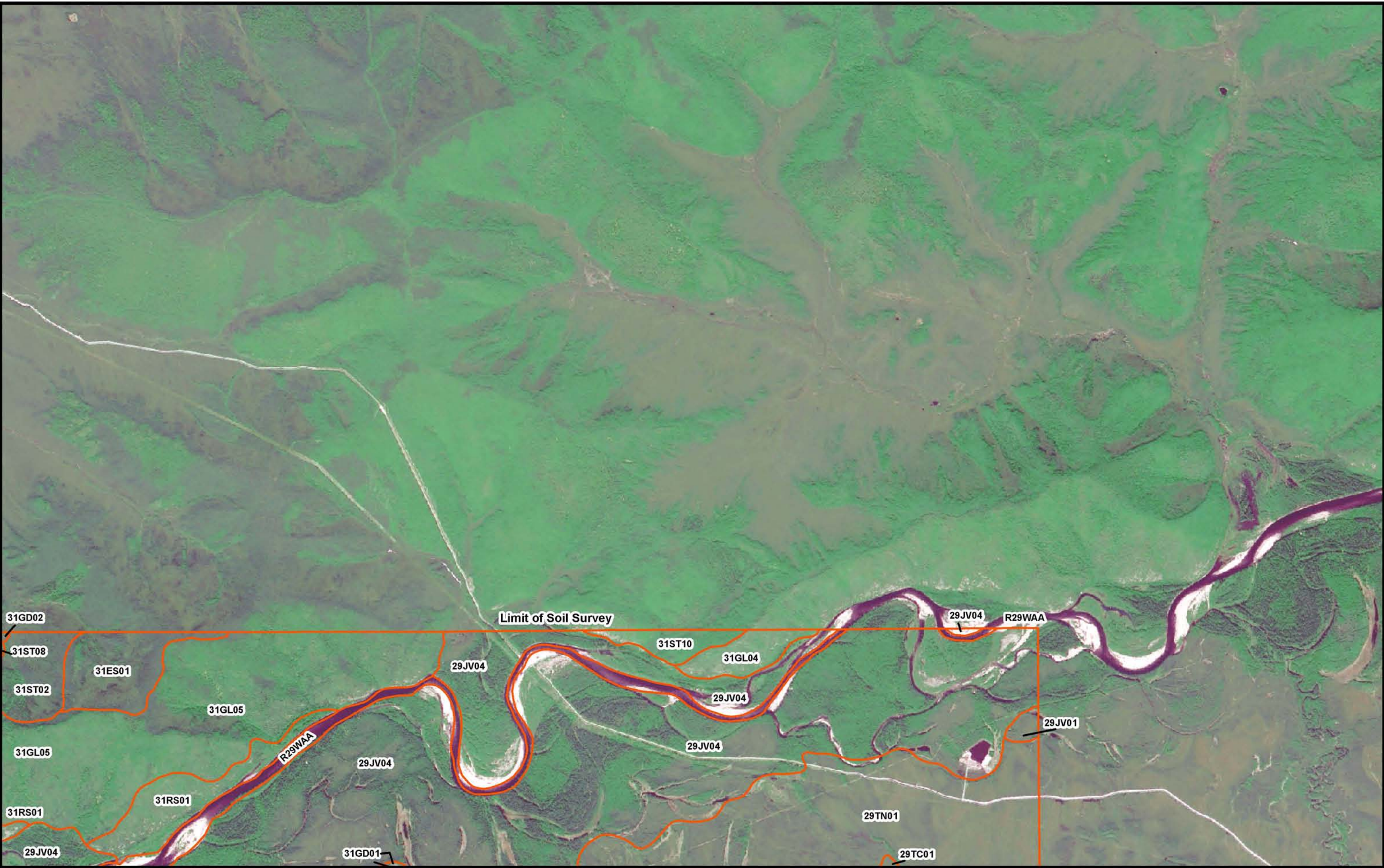
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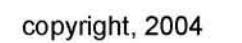


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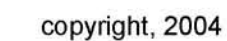


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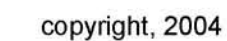


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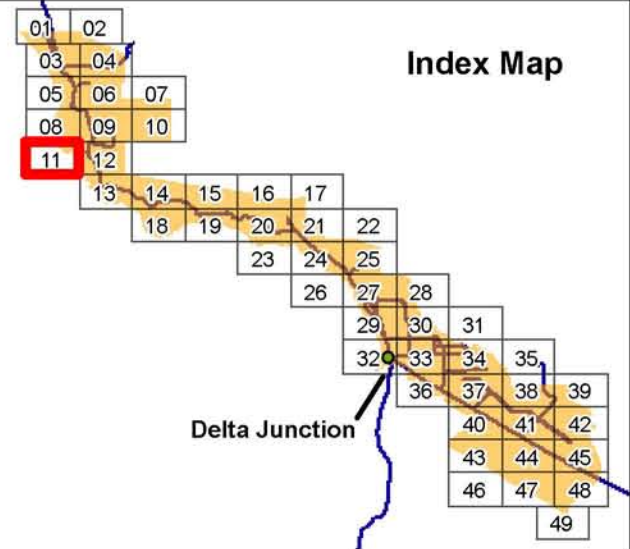


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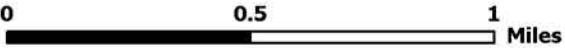


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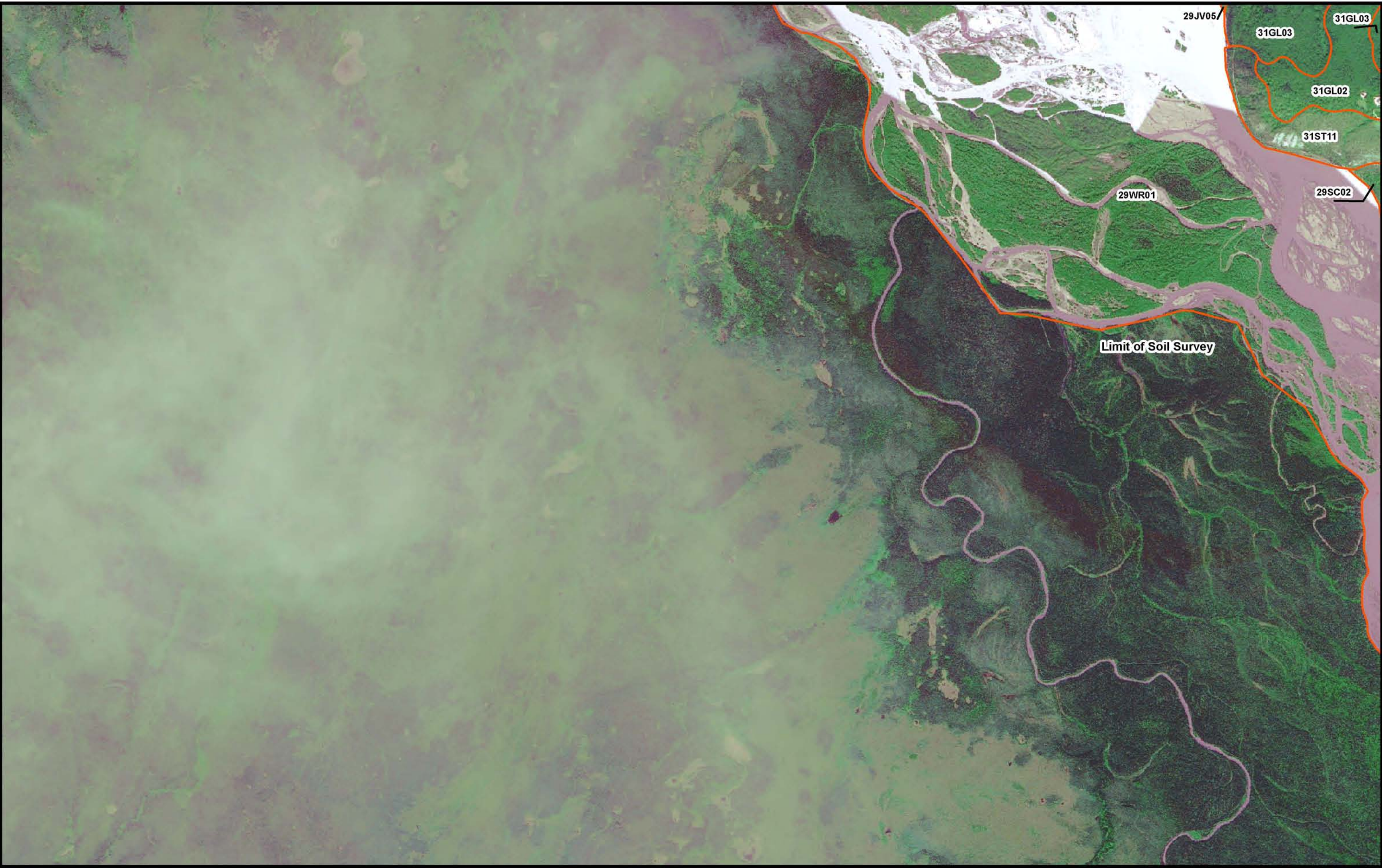
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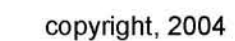


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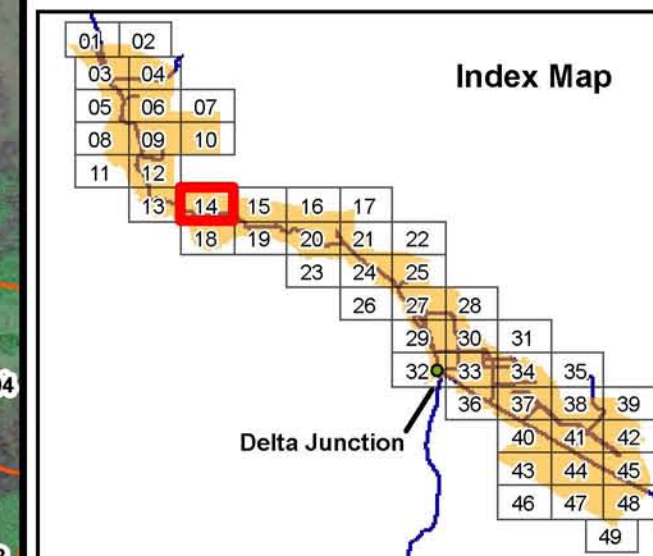


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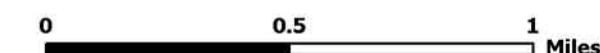


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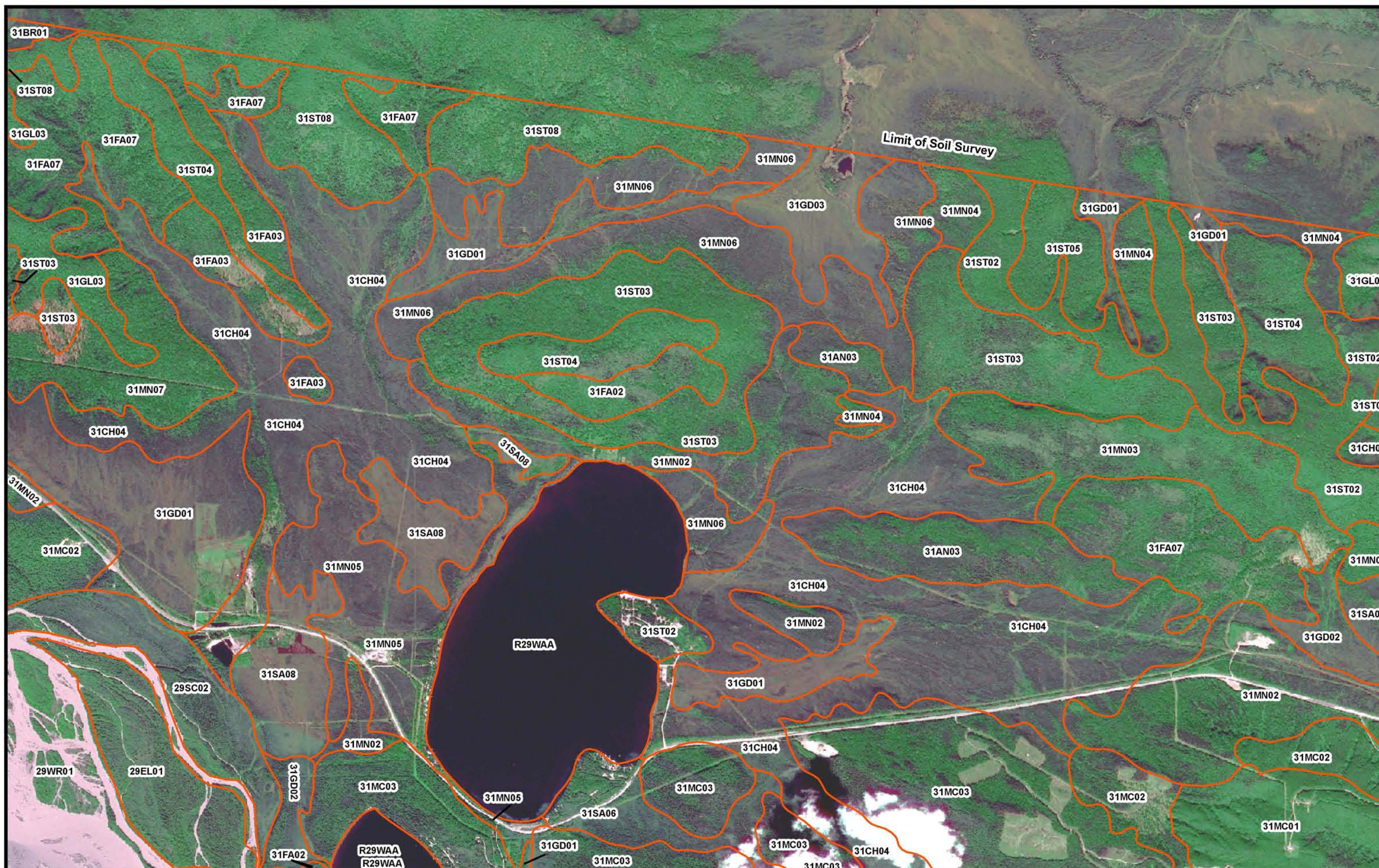
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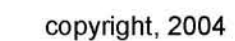


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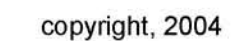


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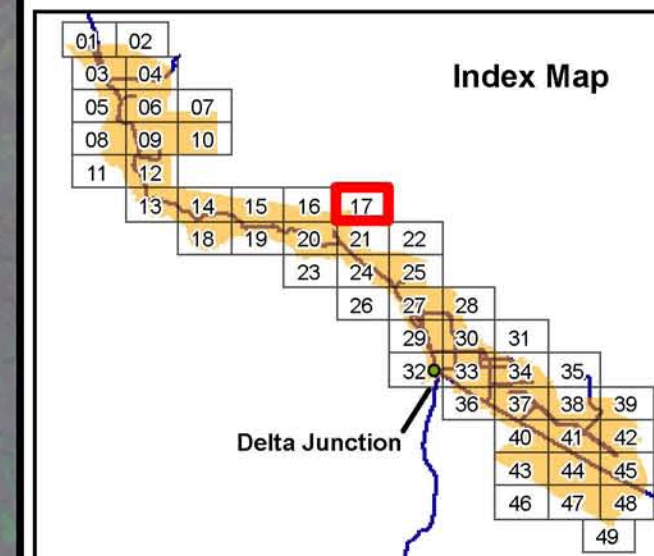
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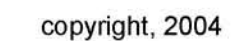


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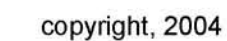


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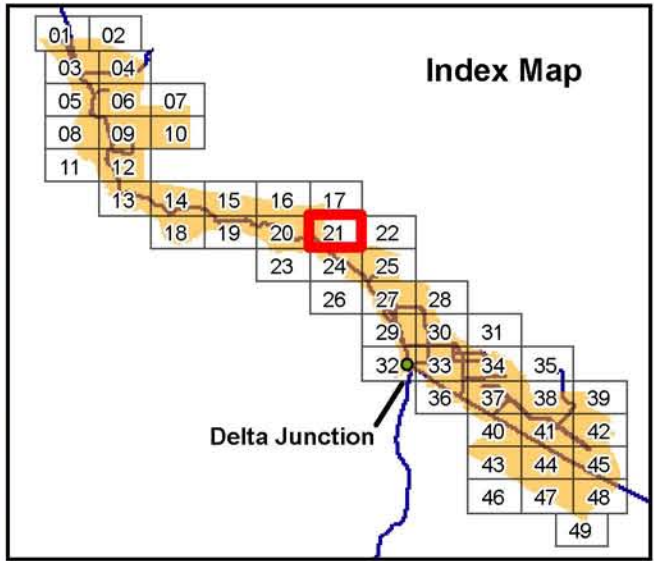
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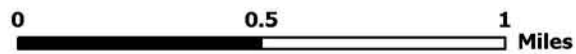


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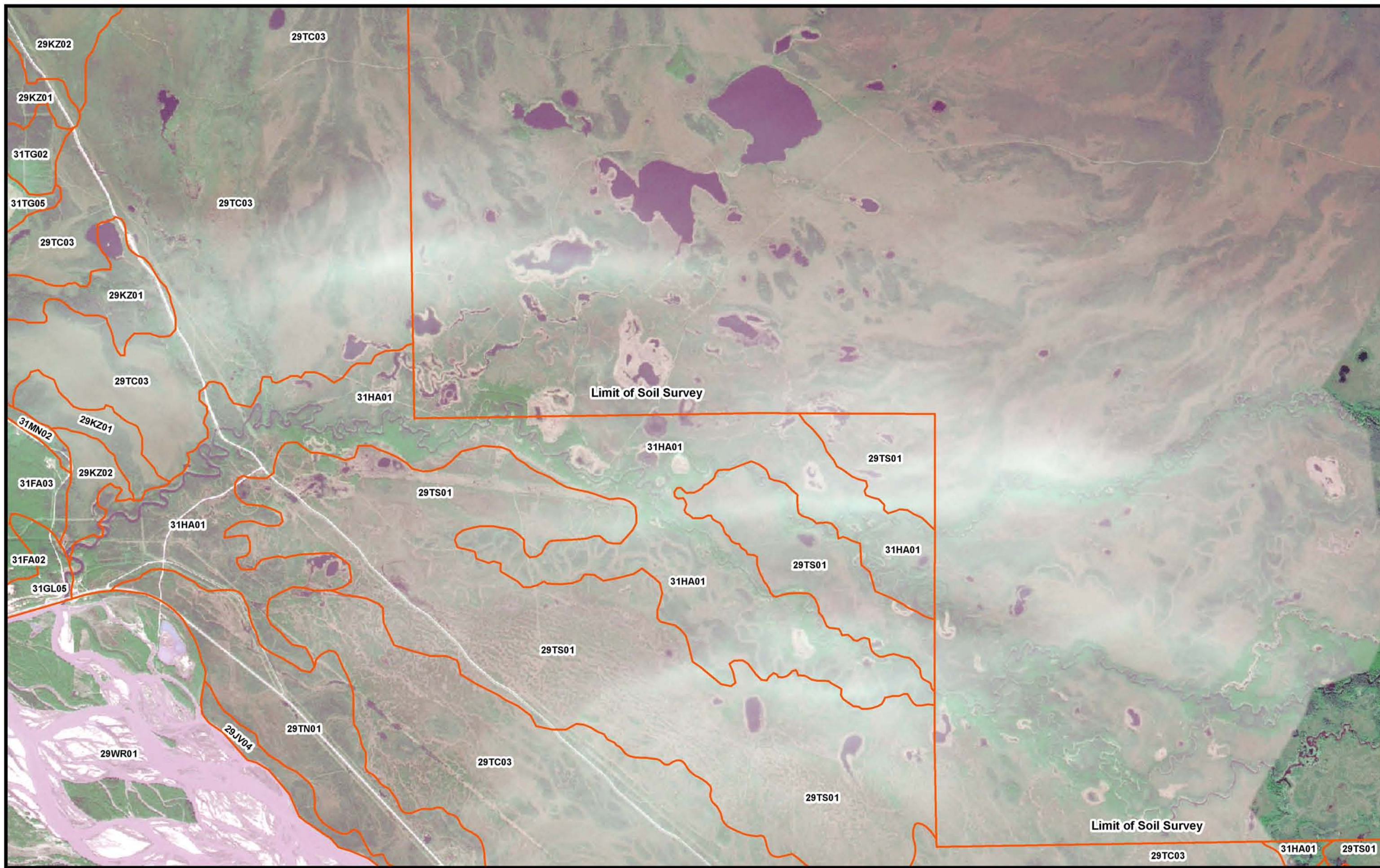
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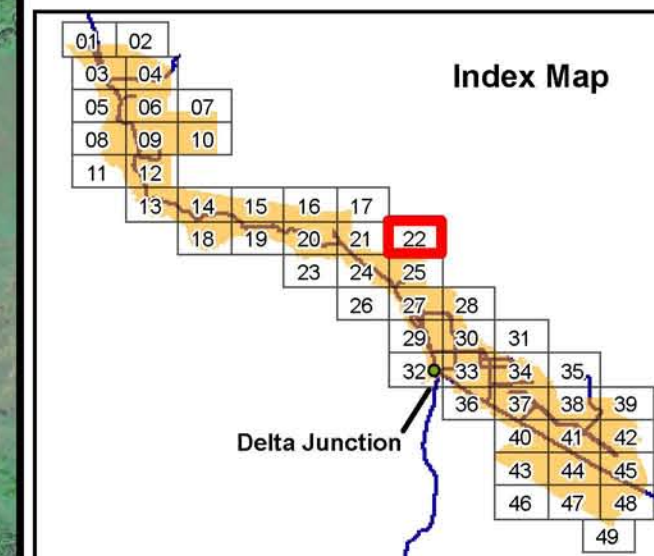
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29TS01

31HA01

29TS01

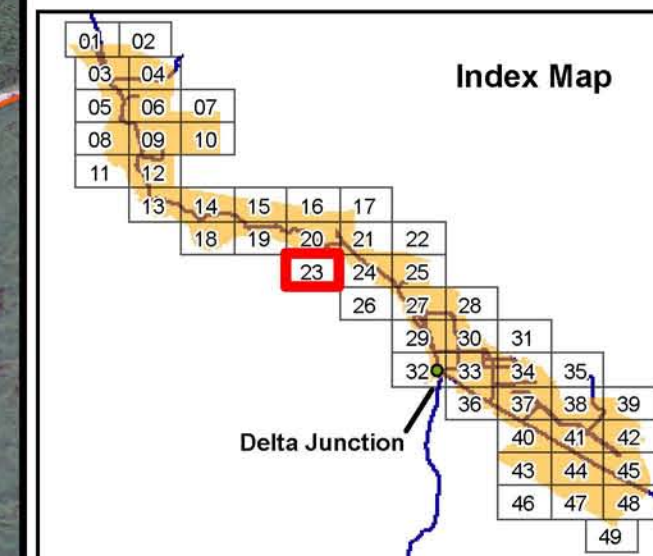
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31HA01



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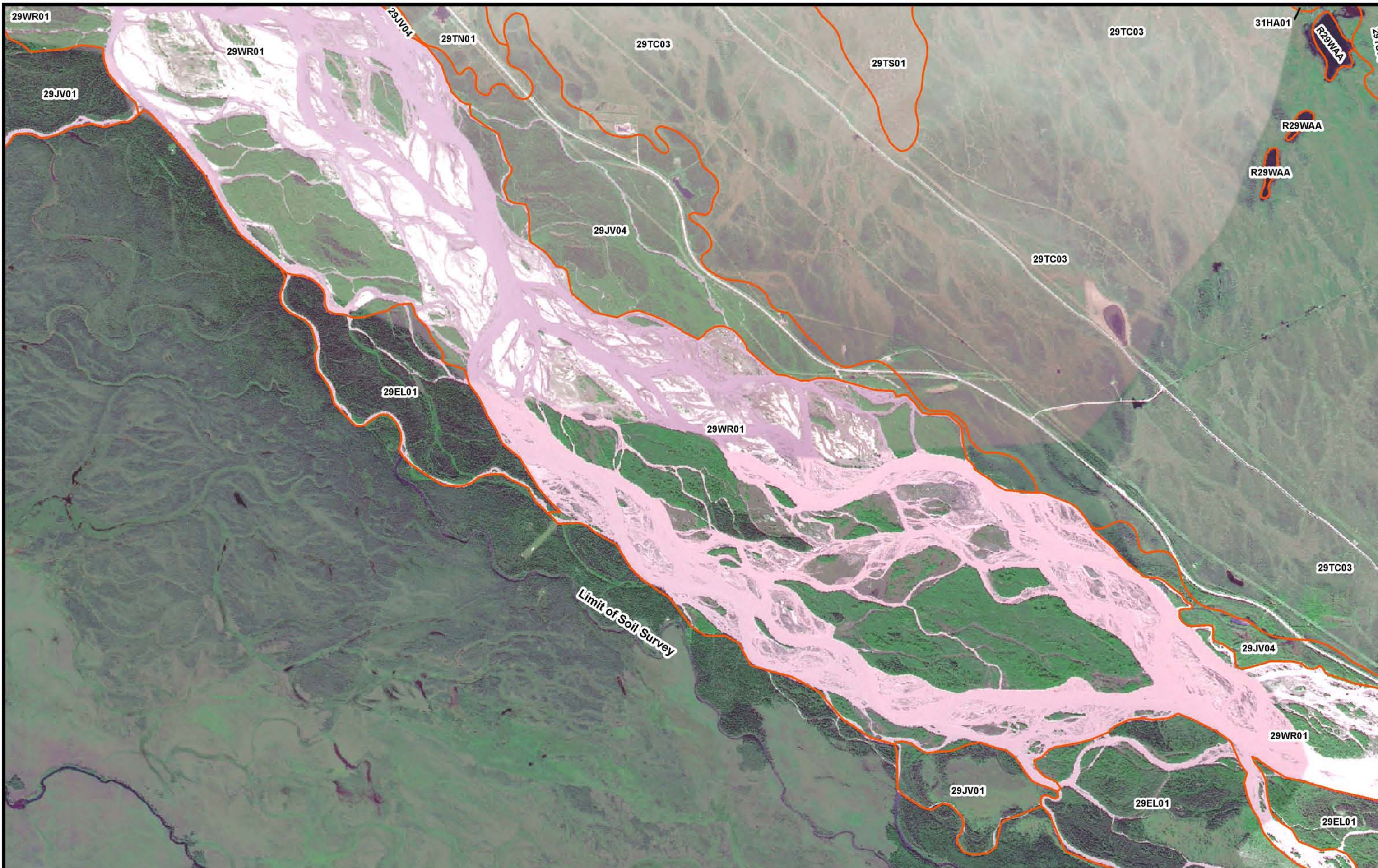


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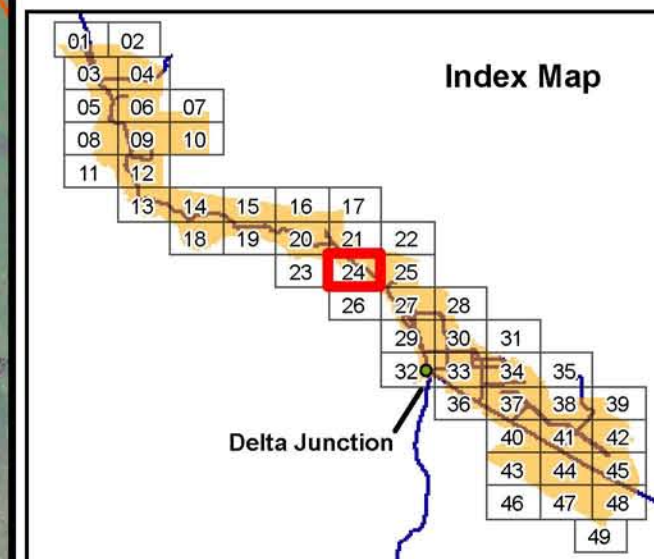
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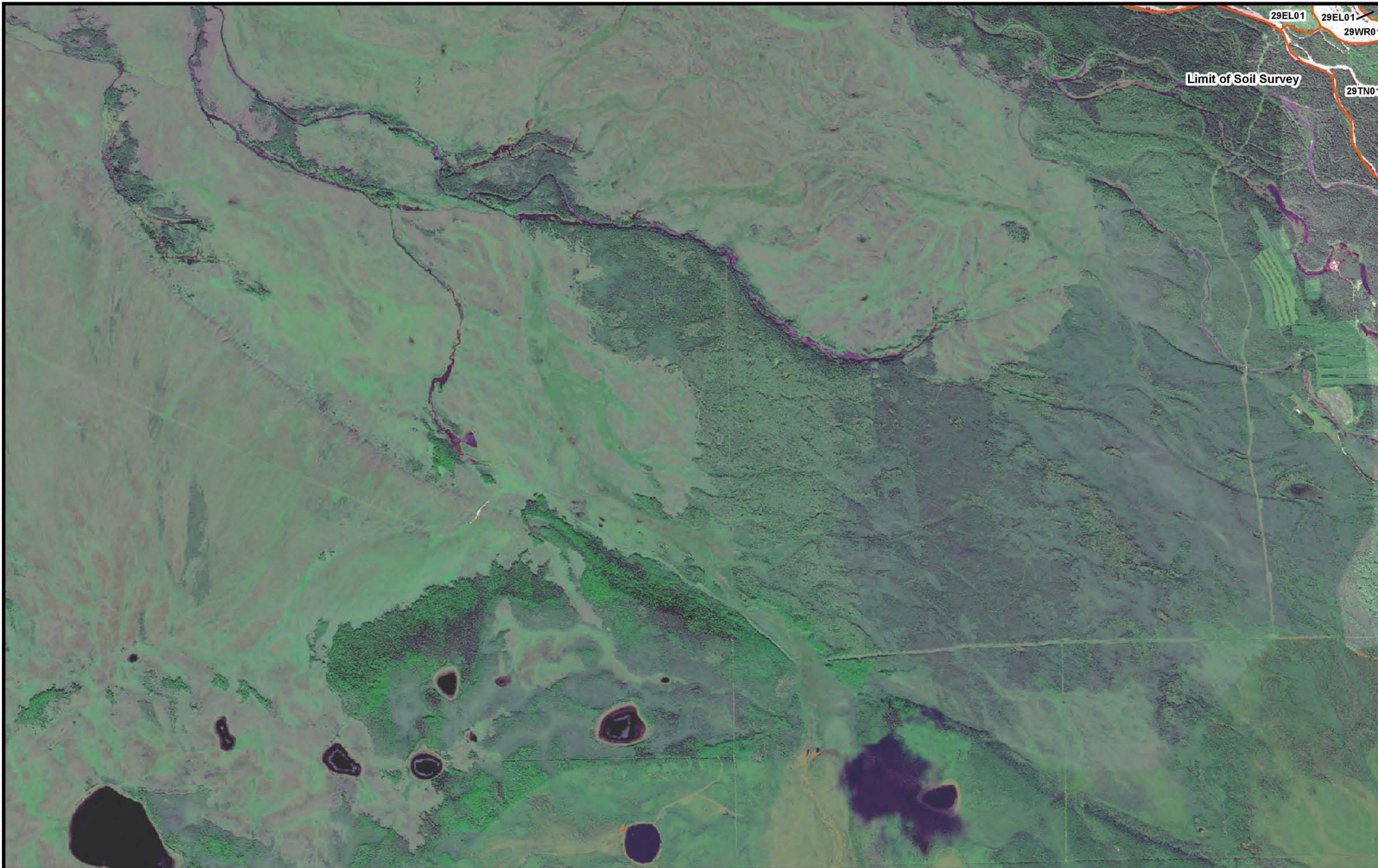
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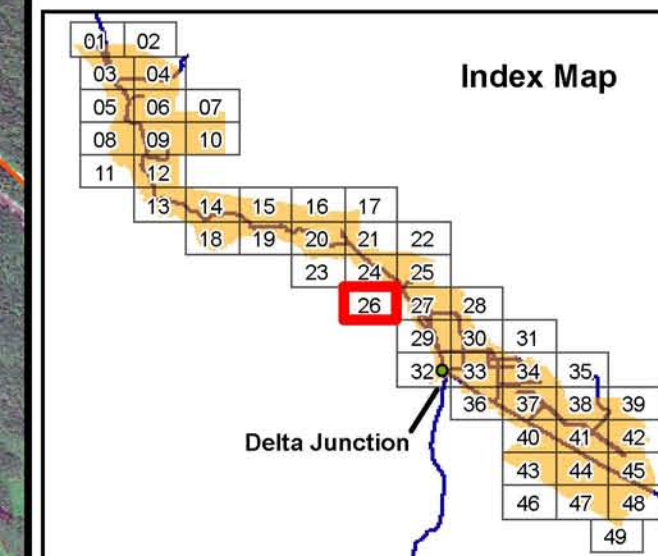






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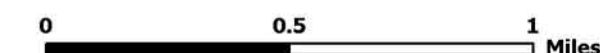


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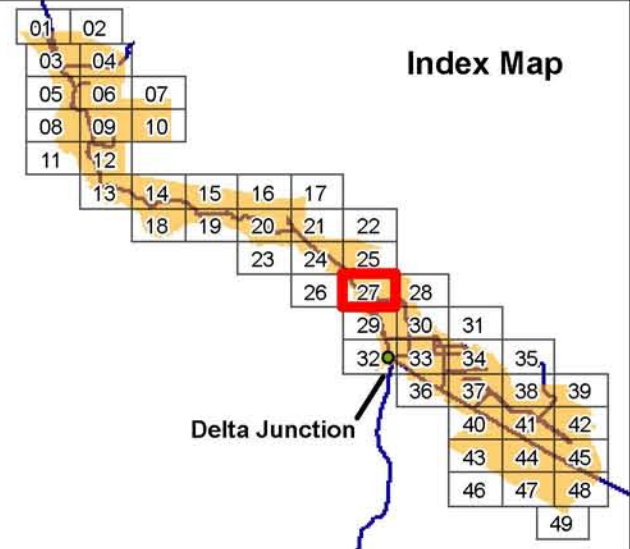
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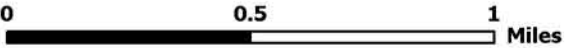


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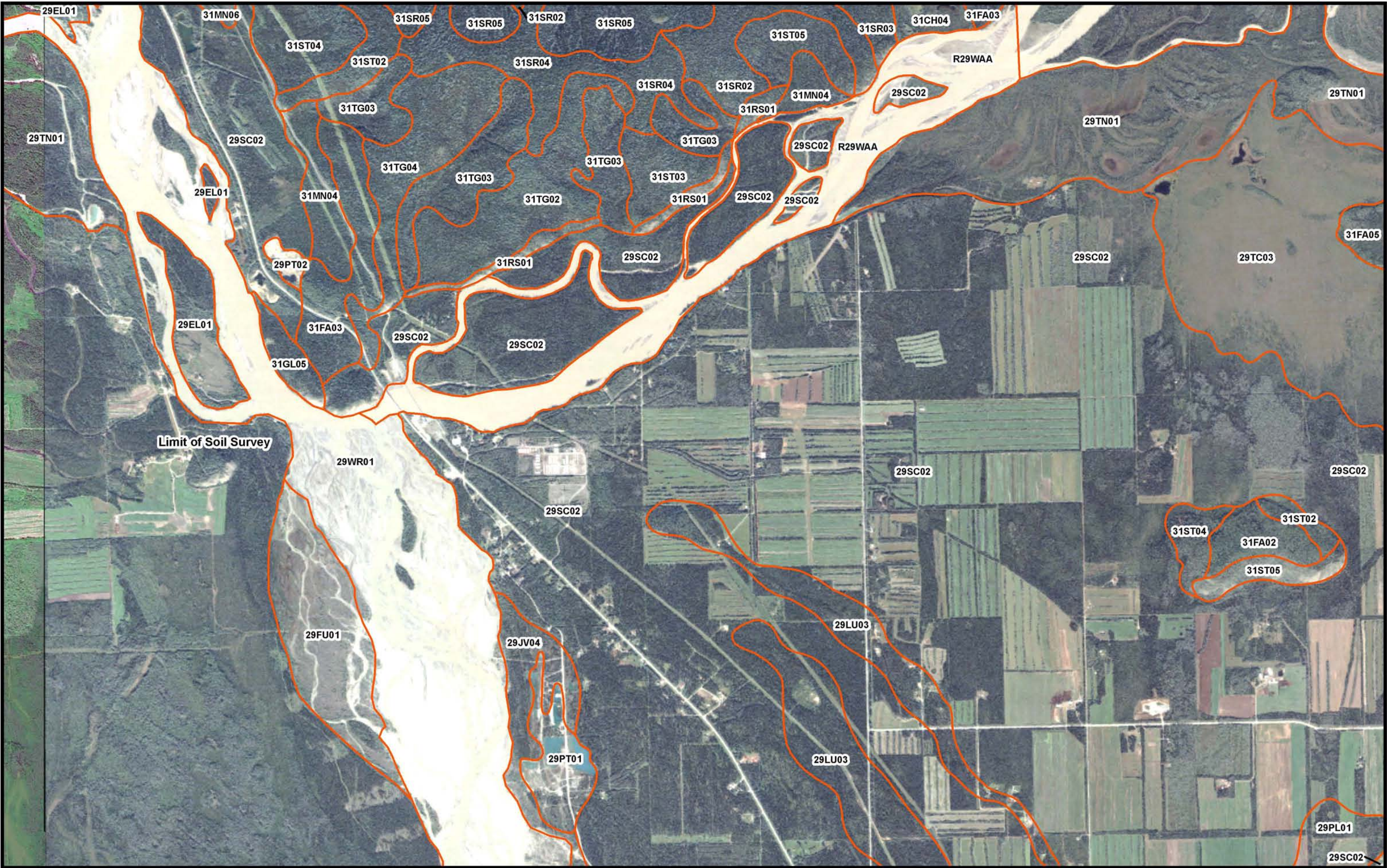
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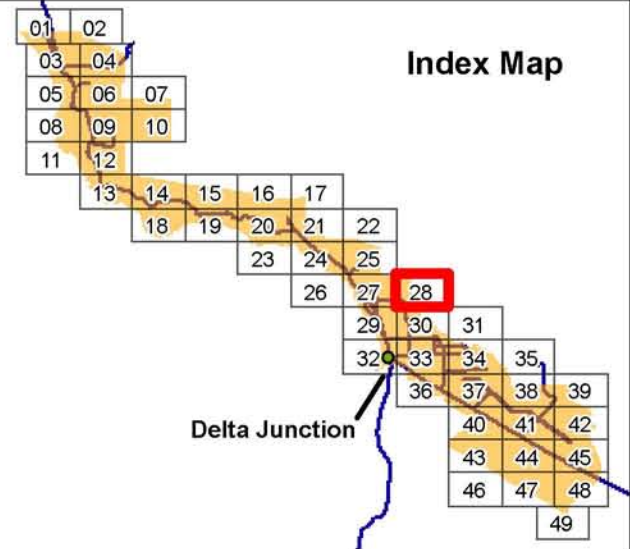


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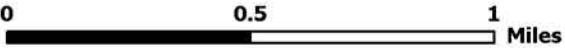


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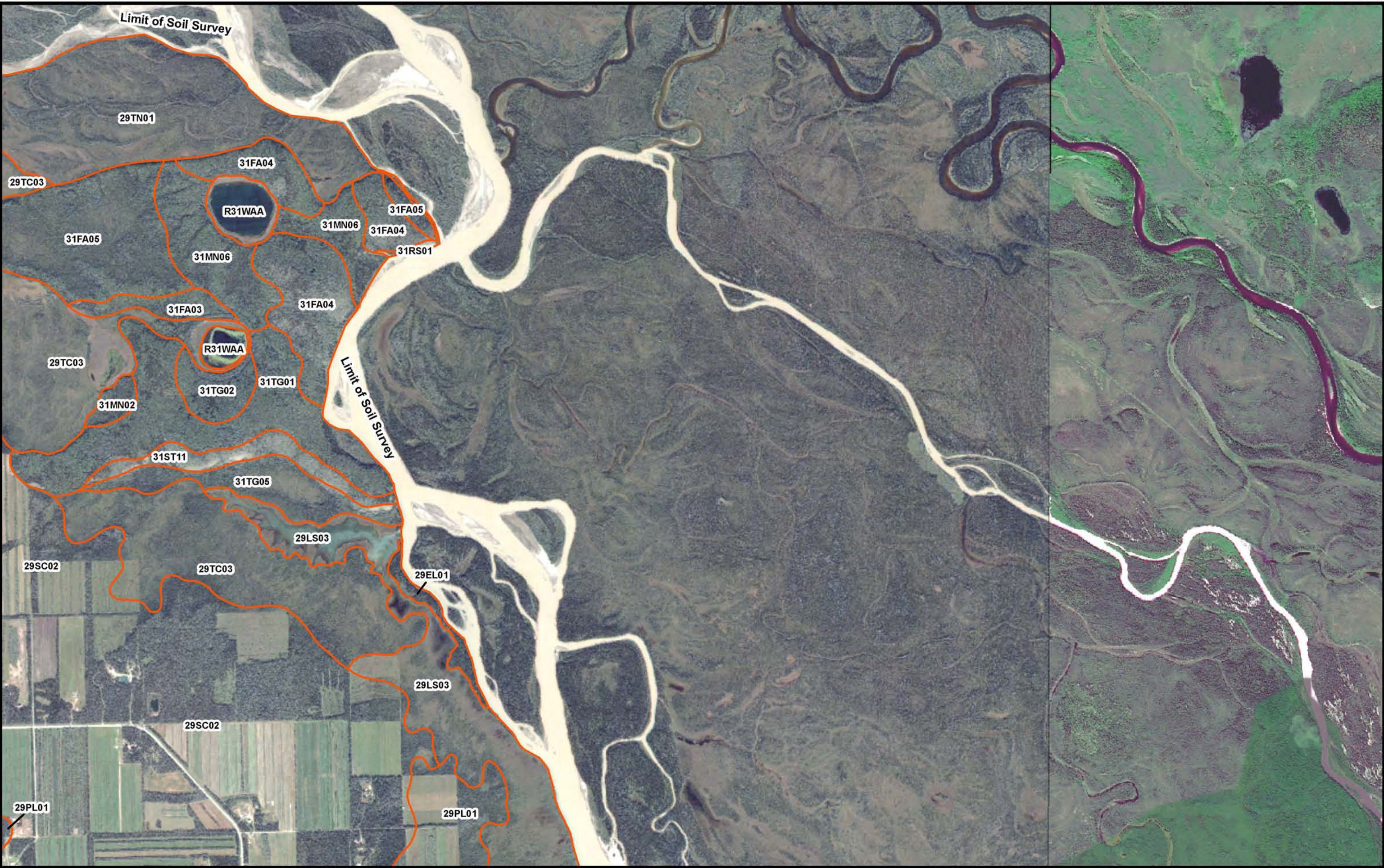
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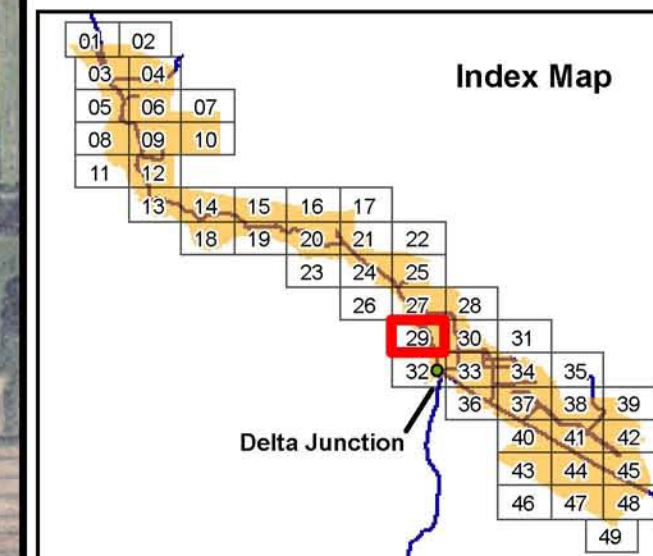
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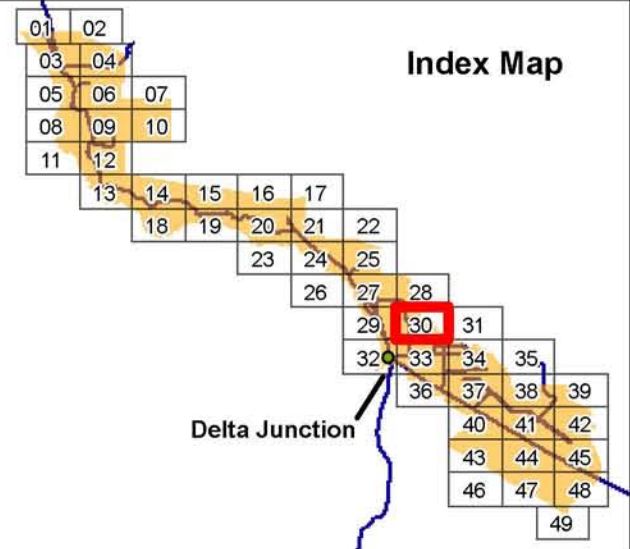


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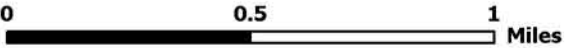


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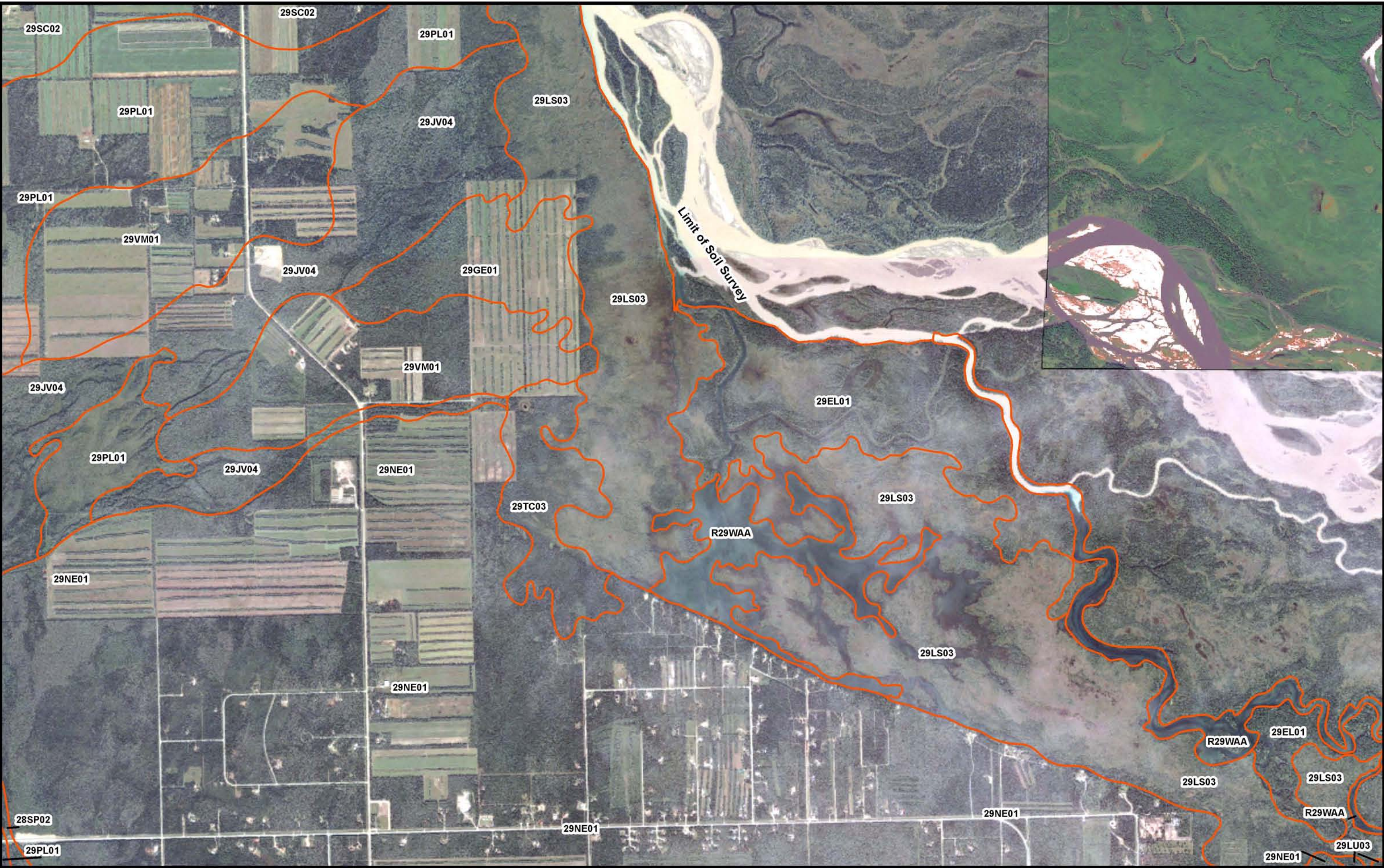
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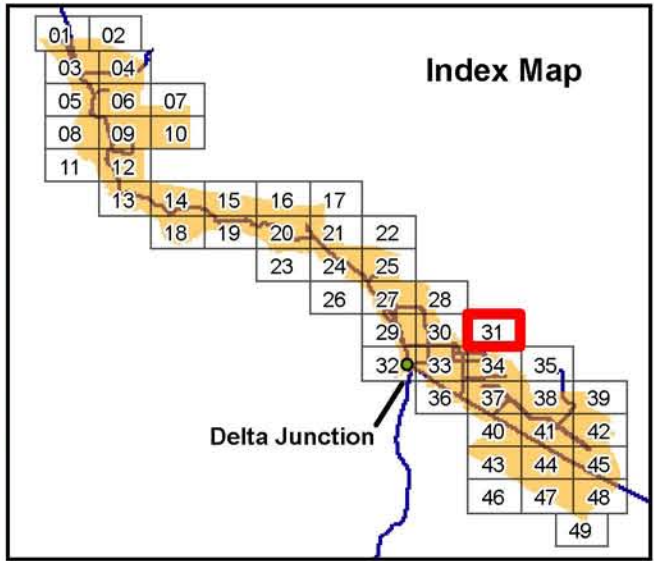


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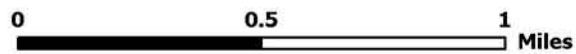


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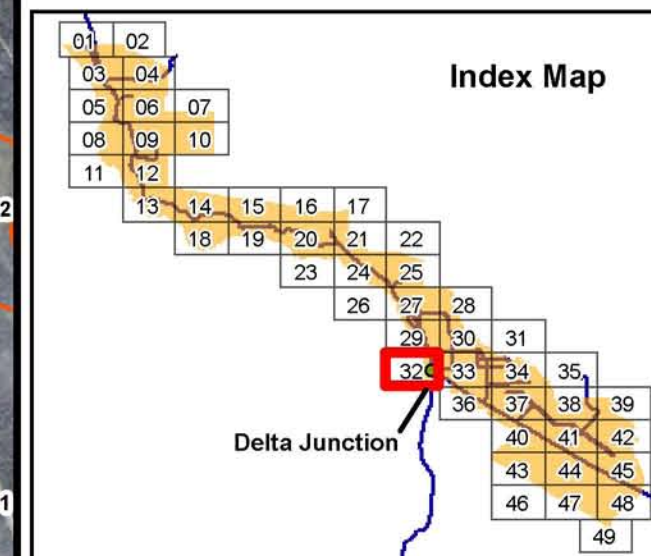


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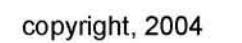


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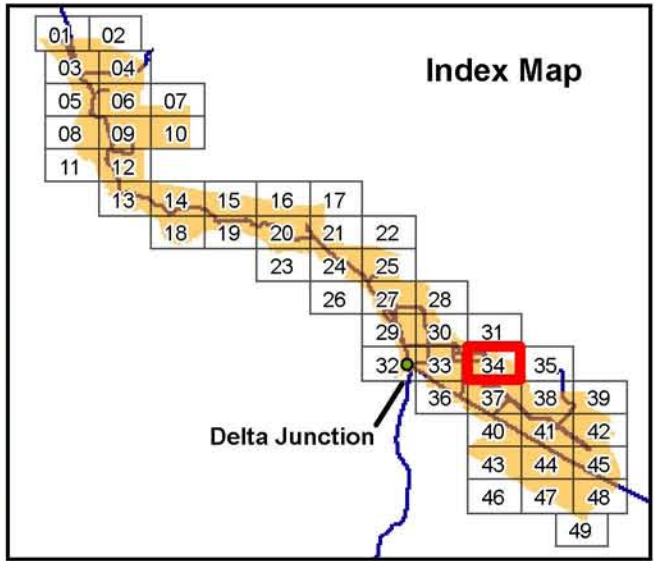
**sheet 33**





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sheet 34

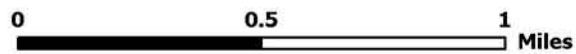


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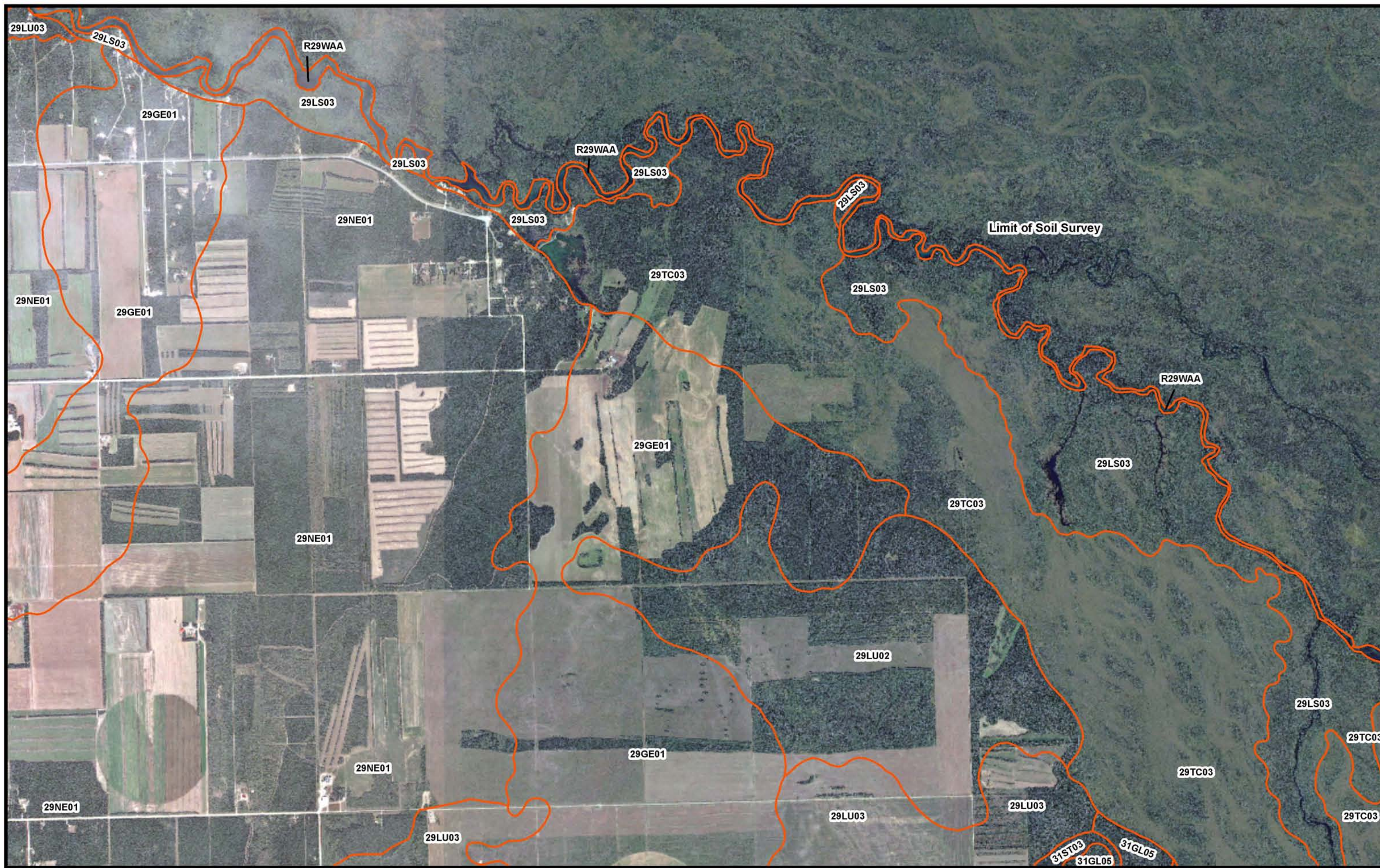
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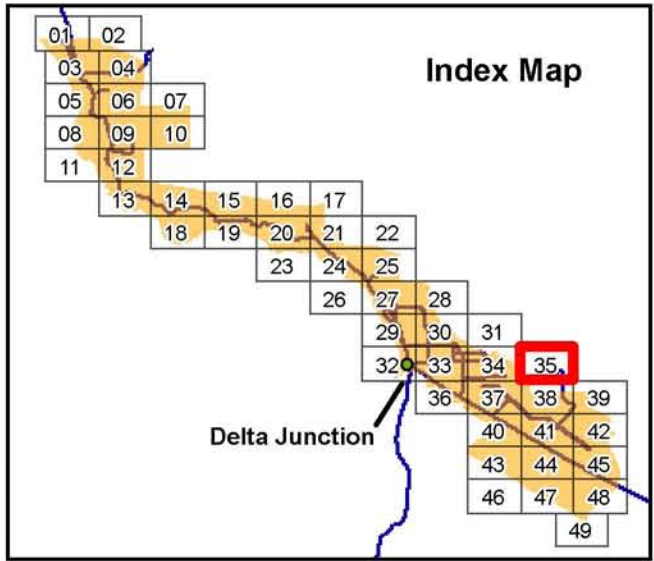
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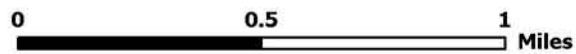


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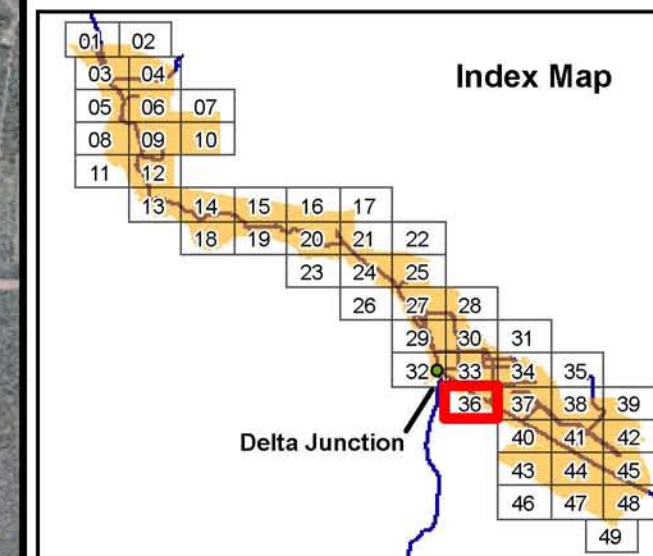
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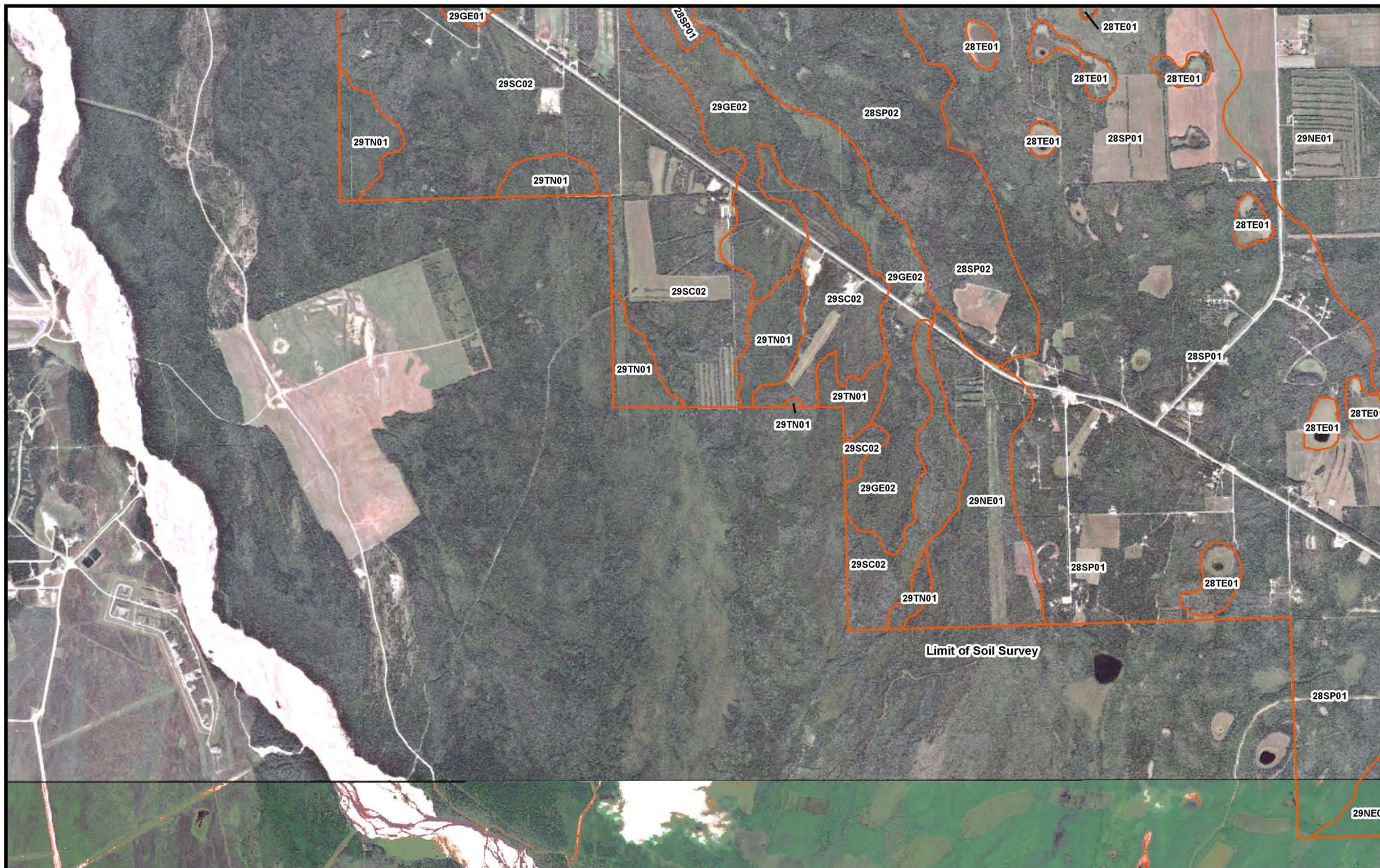
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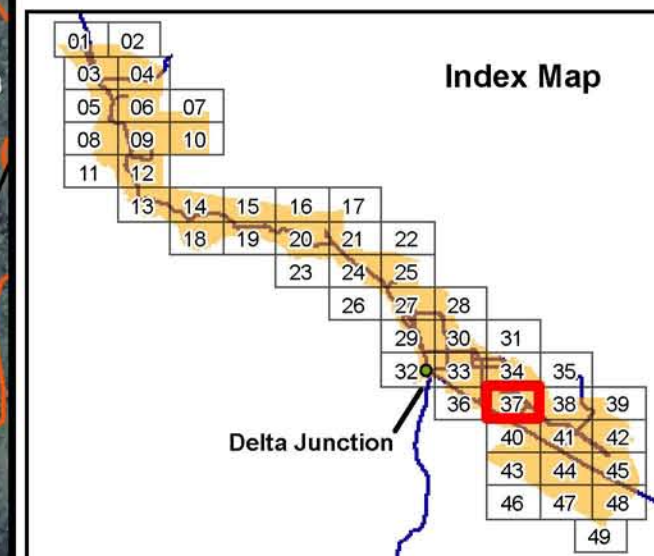
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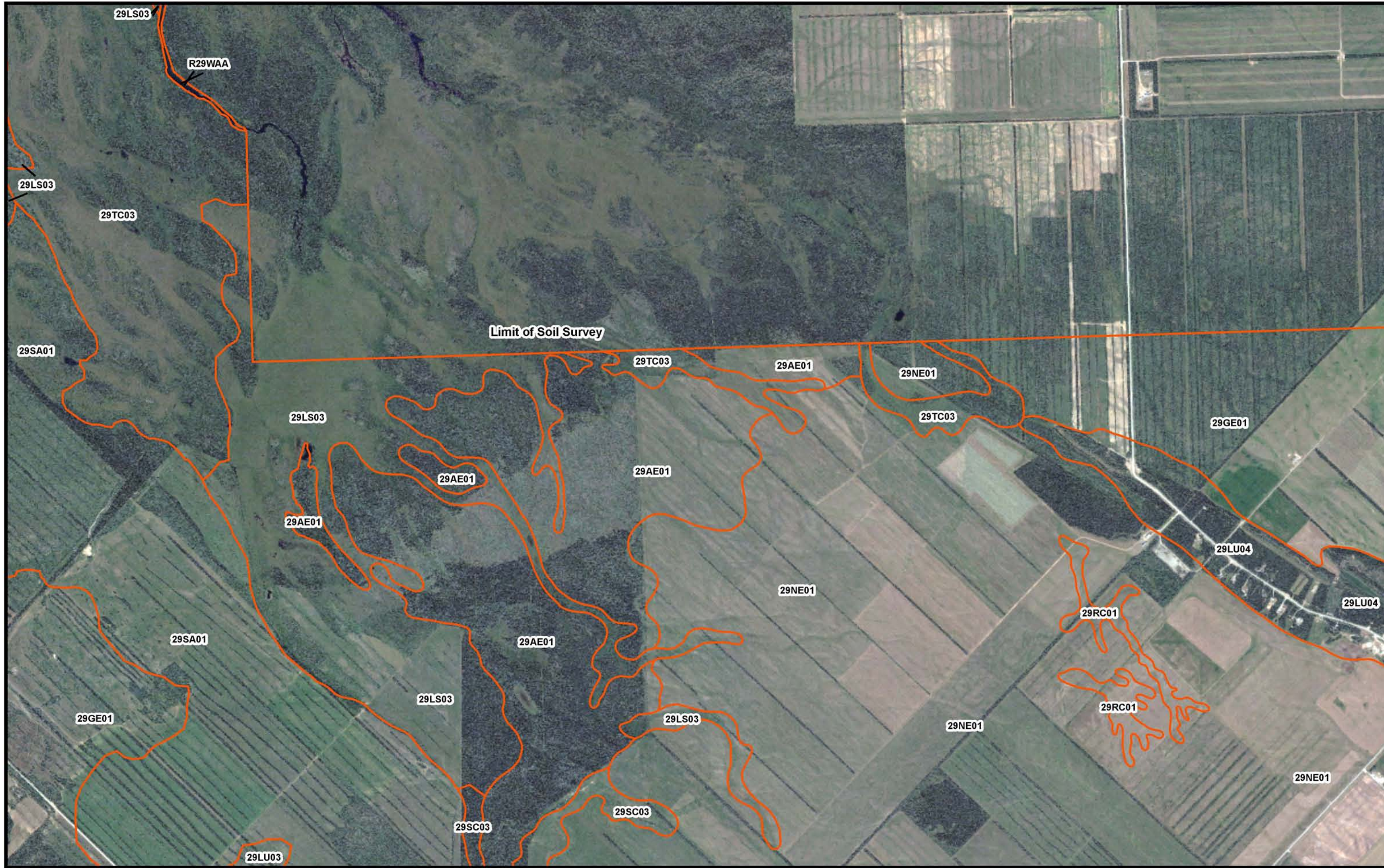
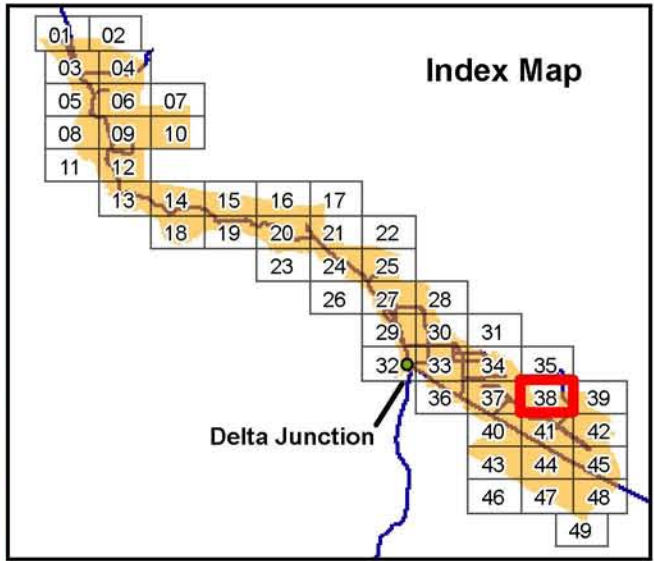


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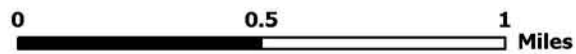
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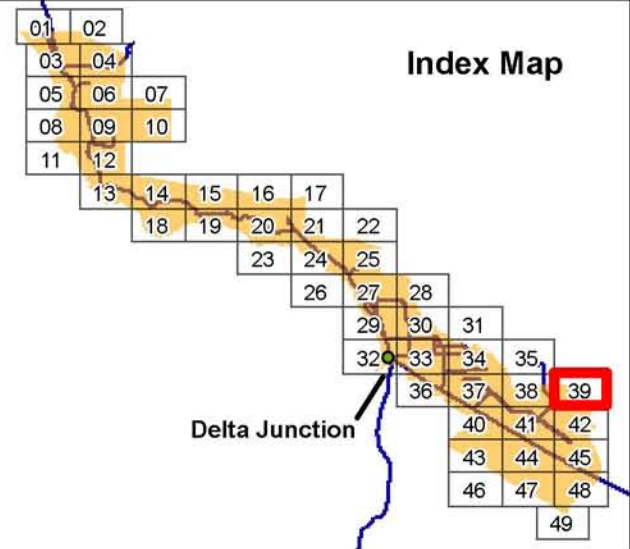


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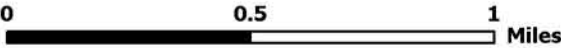


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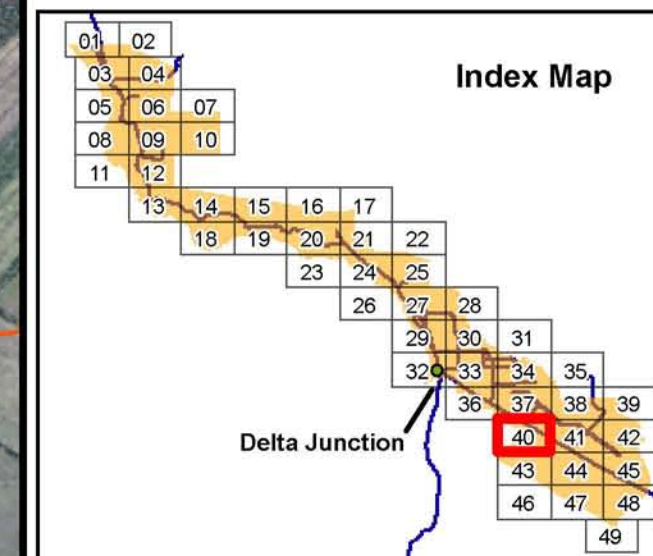
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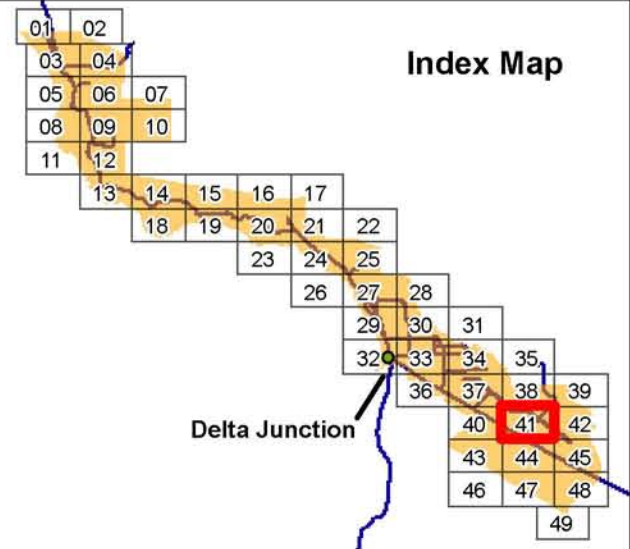


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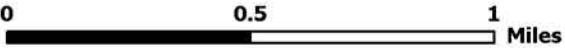


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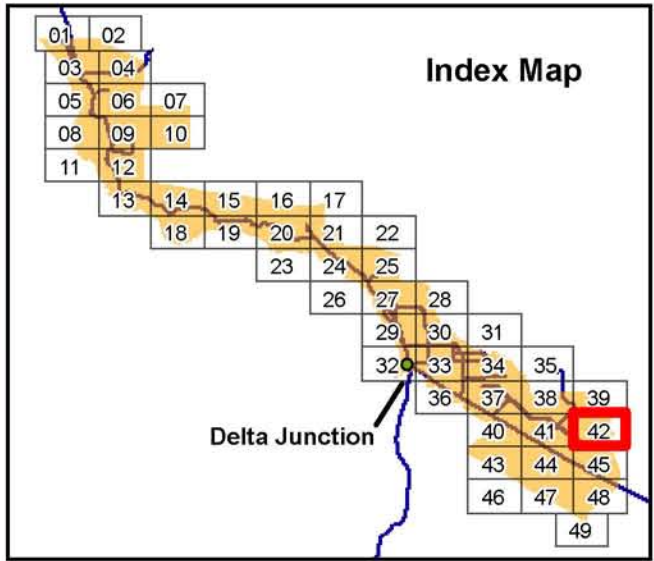


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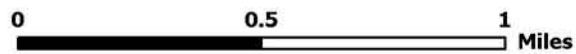


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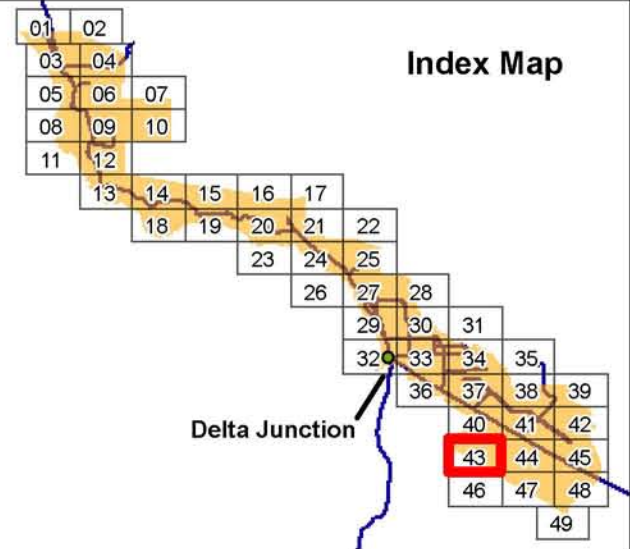


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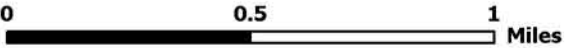


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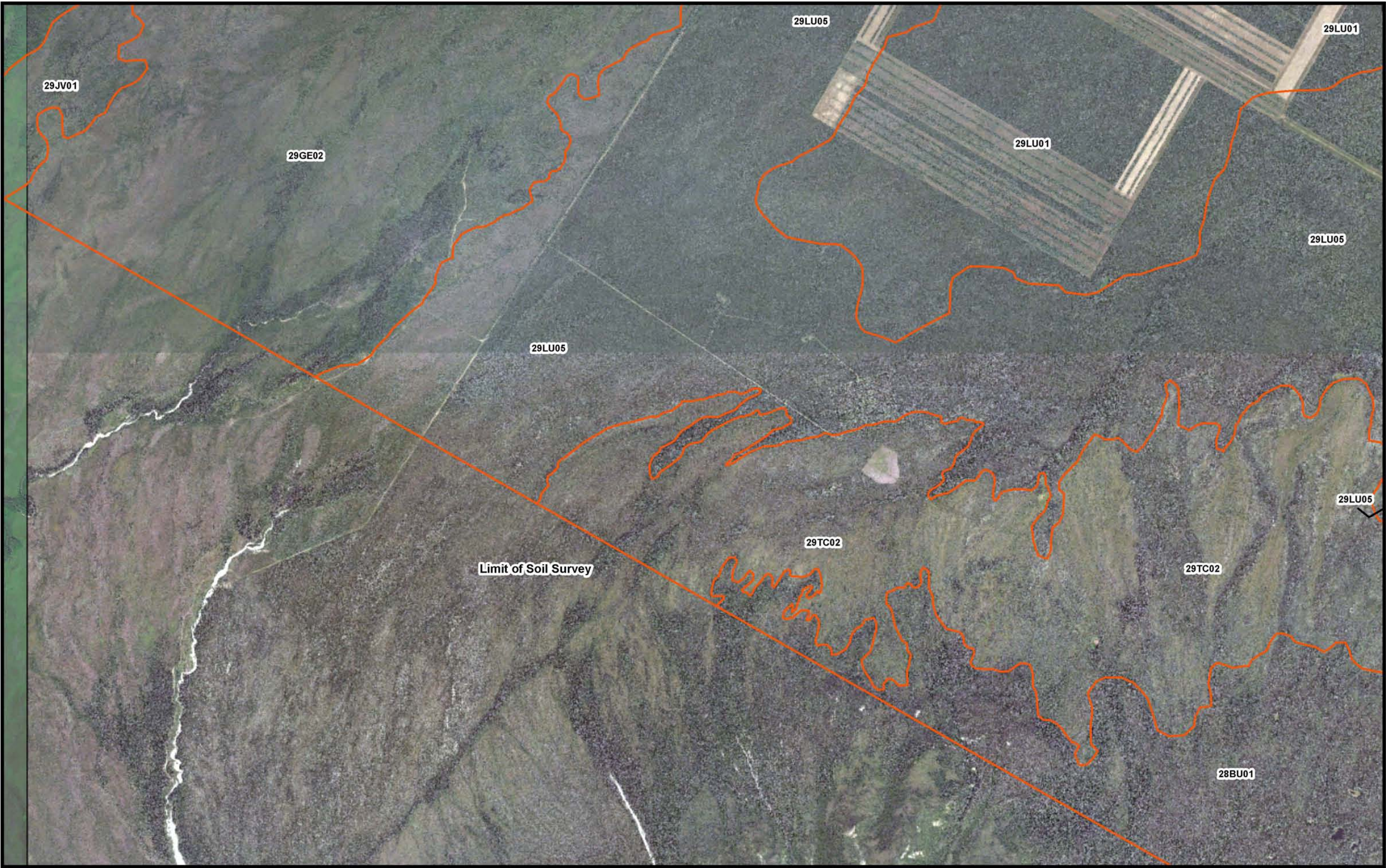
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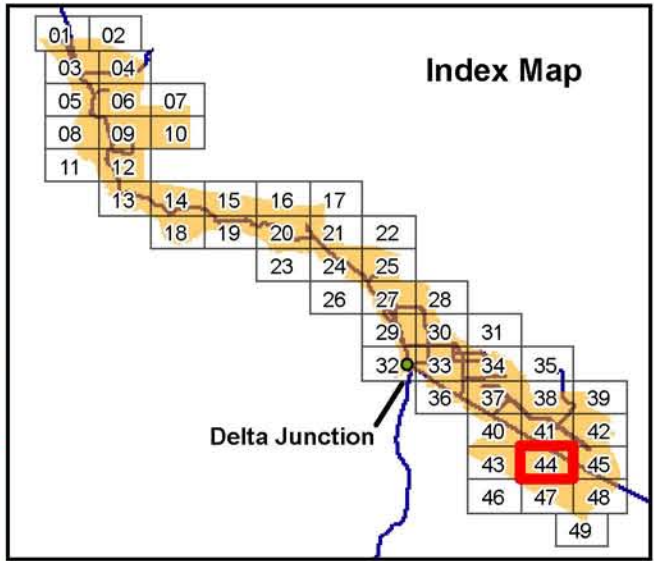


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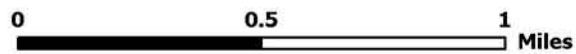


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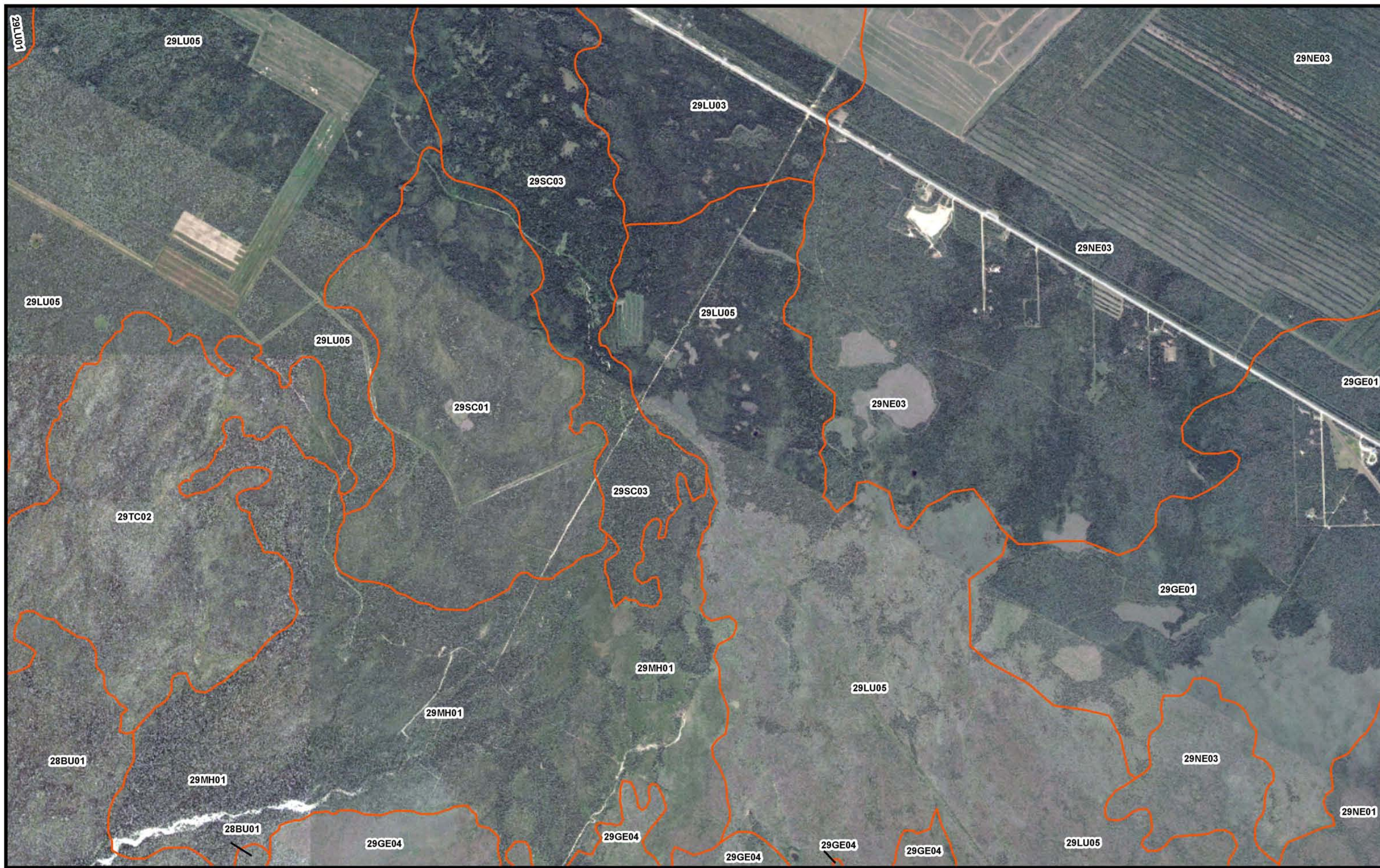
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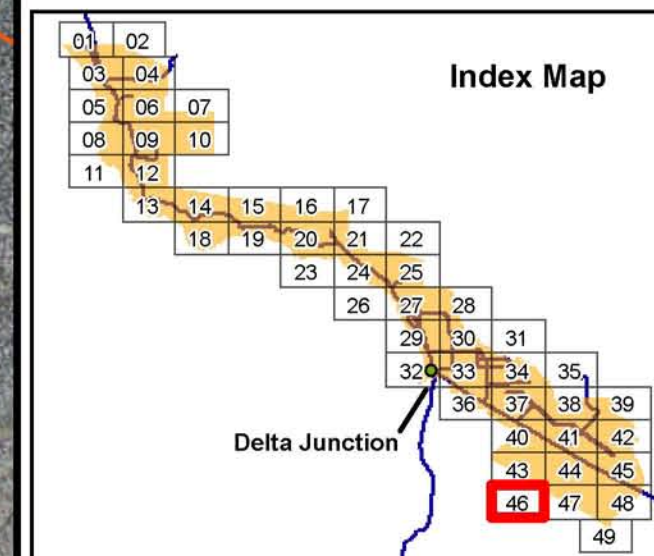
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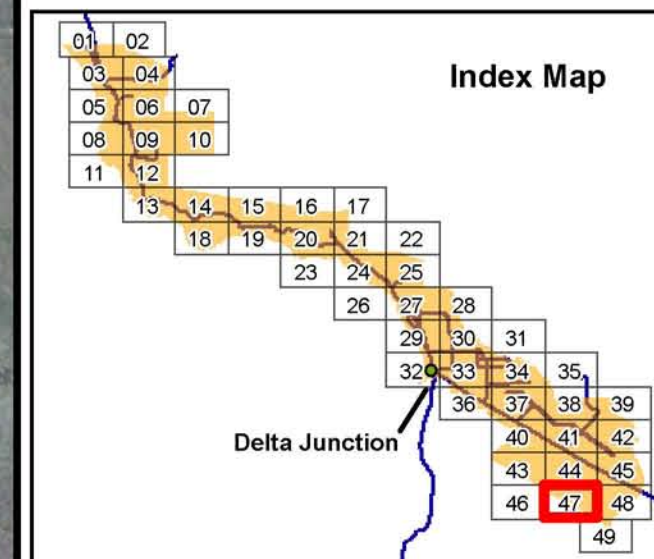


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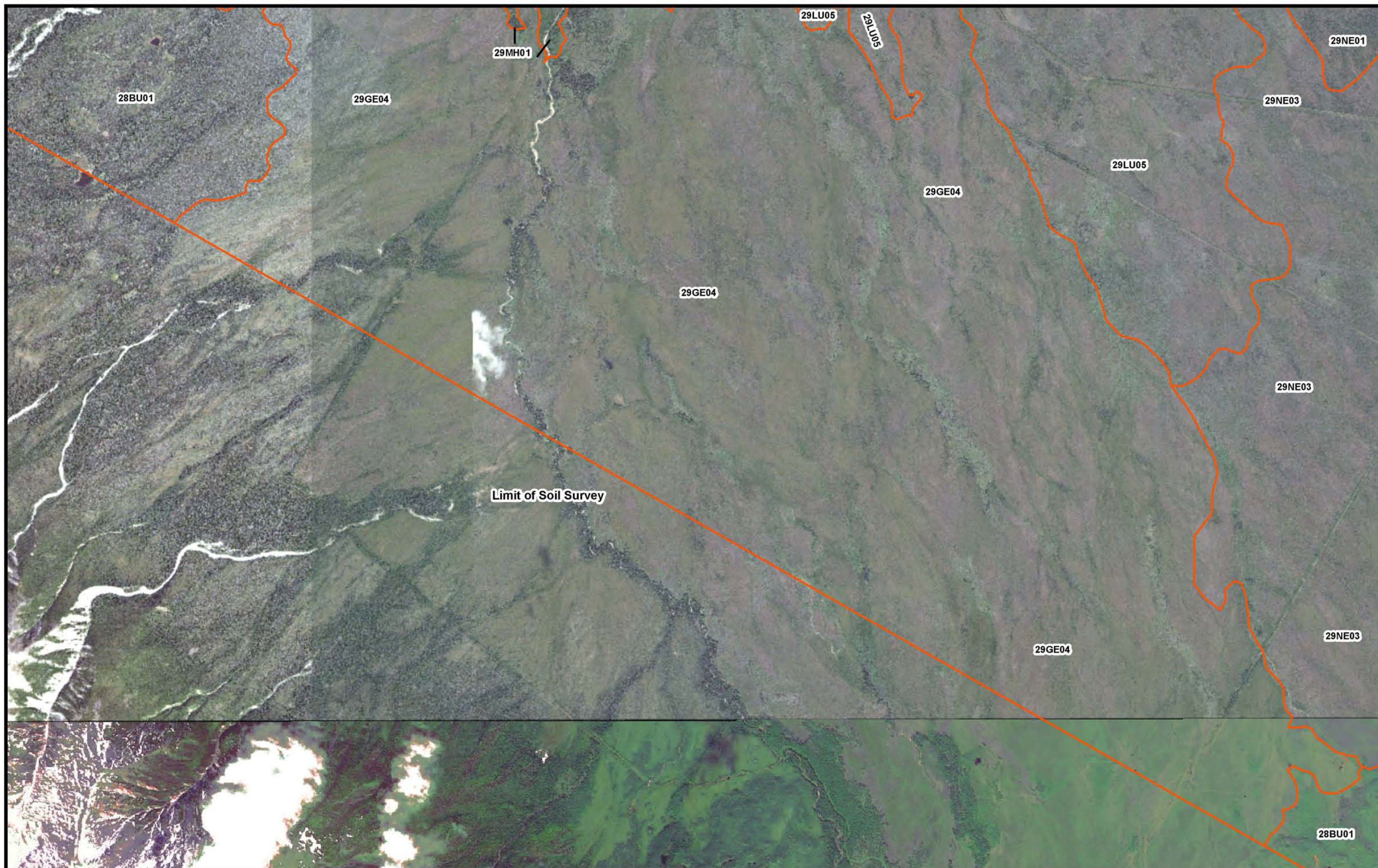
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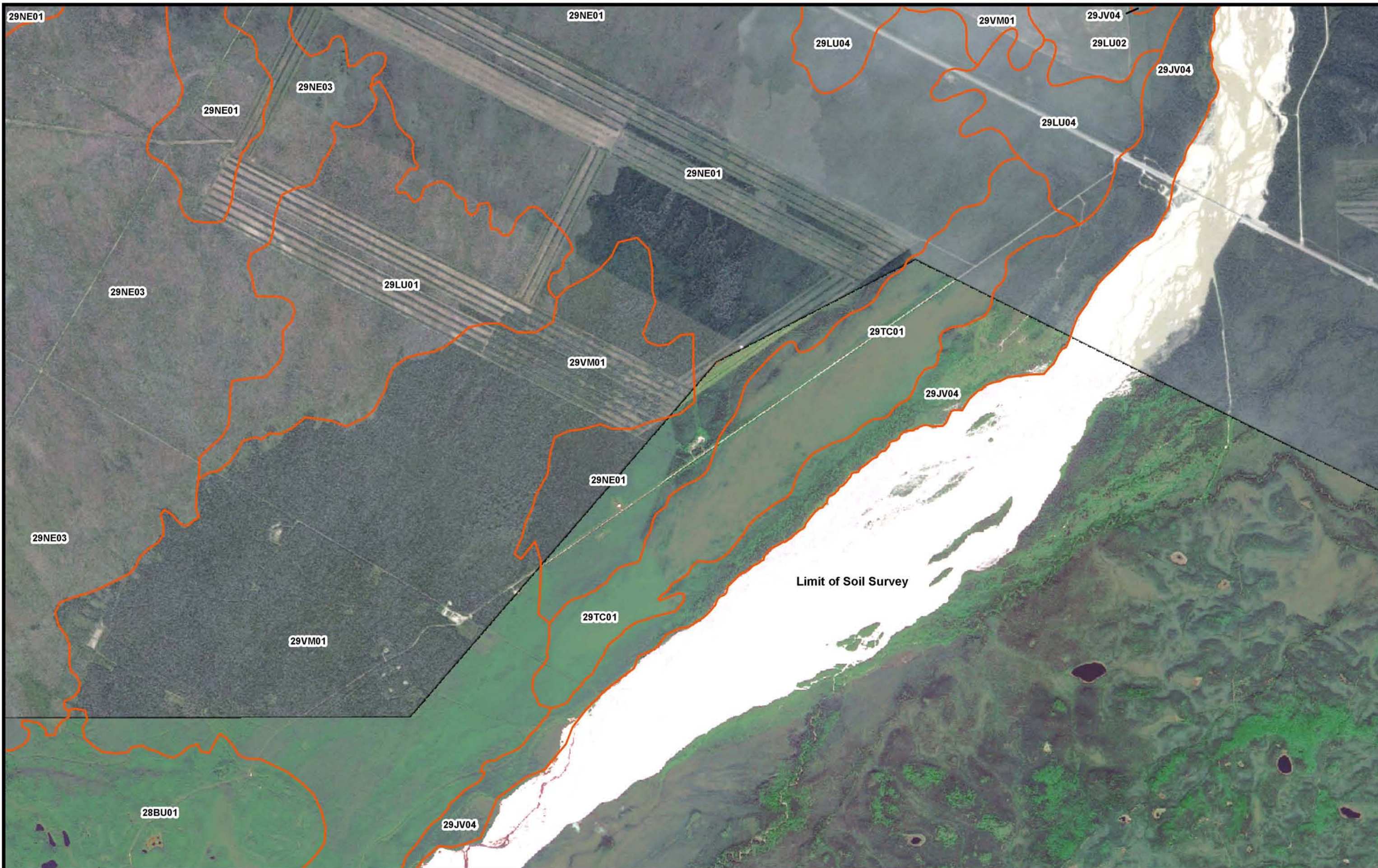
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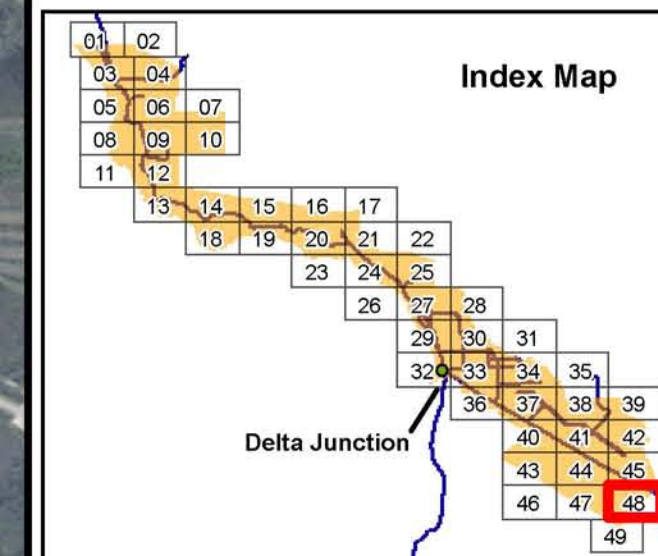






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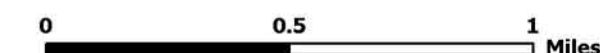


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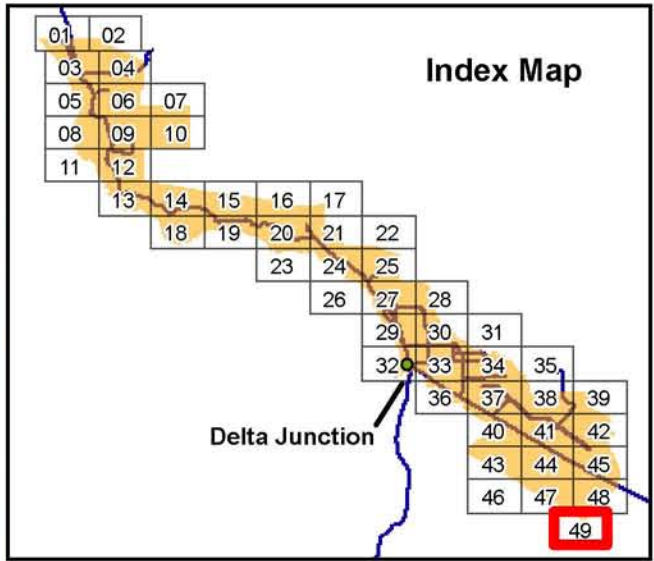


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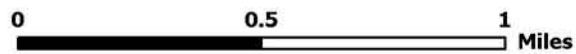


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